

THE LIFE OF
JOHN NIXON

—
VINCENT

4/25
UNIVERSITY OF CALIFORNIA
AT LOS ANGELES



MEMOIR OF JOHN NIXON



John F. Vance

JOHN NIXON

PIONEER OF THE STEAM COAL
TRADE IN SOUTH WALES

A MEMOIR

BY

JAMES EDMUND VINCENT

WITH A PORTRAIT

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PREFACE

MR. NIXON died, full of years and honour, before these pages were ready for publication, but the alterations required in the text have not been very considerable, for the probability of such an event was always present to me as I wrote. I may be permitted to say that the duty of writing this brief Memoir of a successful man grew more and more interesting as it proceeded, not merely because it consisted in tracing the progress of the yeoman's son and colliery overman from the status of three-and-sixpence a day to that of a millionaire, but because of the striking incidents of that progress. Mr. Nixon's bold venture at Nantes, which laid the foundation of his fortunes, certainly partakes of the nature of the romance of commerce. He staked his all and he won, for he staked wisely. For the rest I have been interested mainly in the development and the manifestations of a character which commanded success. Mr. Nixon had his share of good fortune, no doubt; notably when he secured money at the nick of

time at Werfa. He had something nearly approaching to genius in matters of mechanics and engineering, as he proved abundantly by his many inventions and in his valuable controversy with Sir John Rennie. But, for all that, his great success in life was the direct outcome of his strong character. Those qualities in him which were essentially moral, helped him not less than his acute intellect. He was cautious in forming judgments, but when formed they were far-seeing, and he followed them with unswerving courage. His schemes were conceived on the grand scale; they were carried out with indomitable energy and perseverance. "Fairness and firmness" was the abiding principle of his life; and in building his own fortunes he brought prosperity to many thousands of human beings. I thank Sir William Lewis, Mr. Nixon's life-long friend, and Mrs. Nixon, his sorrowing widow, for entrusting to me a very pleasant, if a very responsible, duty.

J. E. VINCENT.

CHELSEA, *October* 1899.

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MEMOIR OF JOHN NIXON

CHAPTER I

INTRODUCTORY

THE task of composing a Memoir of John Nixon, coal owner upon a very large scale, and one of the first and most courageous pioneers of the great industry which is the very life of the industrial districts of South Wales and Monmouthshire to-day, is by no means free from preliminary difficulty. Let it be said at once that it has been undertaken at the urgent request of some of the most intimate friends of the subject of this book, and that this request was made in the convinced belief that the story of Mr. Nixon's ascent from the position of a Durham yeoman's son to that of one of the most successful coal owners in the kingdom was worthy to be told in some detail, not only by reason of those elements of the romance of commerce which it contains at various periods, but also by reason of the practical lessons for the conduct

of life which are embodied in it. The main difficulty to be faced is found in the fact that, while Mr. Nixon's name is well known in South Wales and Monmouthshire, and while the influence which he exercised in the development of the commercial resources of that district is in some measure understood, although his days of activity are long past, his name is not known and the importance of his life's work is not recognised as it deserves to be by the world at large. Busy politicians in the great world, soldiers and sailors, lawyers not connected with the Parliamentary Committees, men of letters, zealous students of the passing events of the day, may well be pardoned if they ask, "Who was this man that his life should be written?" for they have not so much as heard his name. Parliamentary history, as it is written in the newspapers, contains no mention of him; although, if the annals of the committee-rooms were to be written, the name of John Nixon would soon become prominent, and the influence which he exercised in his generation would quickly force itself into recognition. He never made, nor did he ever attempt to make, any figure in the sphere of politics: he never posed as the apostle of a cause, or professed himself an ardent and un-

selfish benefactor of mankind. He would have been slow to assert that his life had been passed and his conduct of affairs based upon altruistic principles. He would have said, we imagine, and certainly his life's history says for him, that enlightened self-interest was the guiding principle of his life, and that through all the long years of his career strict attention to his business had been his principal rule of conduct. There is no desire on the part of those who have caused this volume to be written to elevate John Nixon upon a pedestal, or to pay to him that reverent respect, that homage of hero-worship, which is due to the man who sacrifices himself in the service of his fellow-men. To present him in that light, or to attempt so to present him, would be but an act of fulsome and unreal flattery; for he was a man who had lived his life, and that a great life in its way, in the pursuit of his own interests for his own sake, and for the sake of those who were near and dear to him. Nor do we claim for him anything approaching to perfection of human character. Just and firm he had shown himself; wide grasp of mind and shrewd foresight he had certainly proved himself to possess; to generosity, in great matters rather than in small, he was by no means a stranger.

Yet, to him who has studied the story of John Nixon's increasing fortunes from the beginning to the end with anxious care, the temptation to build the pedestal and to place the hero upon it has very often been strong. There is real foundation for the scriptural saying, "By their fruits ye shall know them;" and, if we apply the underlying principle of those wise words to Mr. Nixon's life, if we estimate his services to the community by the incidental results of the many great stones which he laid in building the edifice of his own fortunes, we cannot resist the conclusion that, apart from all questions of motive on his part, his life has been not less but more useful to the world than that of many another man whose purposes have been entirely untainted by considerations of personal interest. In a word, a successful man of business, especially if his energies be concentrated upon productive enterprise, may be of infinitely greater value to his fellow-men than the high-flown idealist whose one and absorbing motive is the elevation of humanity. Hence comes it that, when we study the incidental results of the acts to which Mr. Nixon was prompted by enlightened self-interest as one of the pioneers of a great trade, our admiration of his courage and his sagacity grows

apace, and we begin to think that, when all is said and done, analysis of motive is misleading and untrustworthy. Be it granted that the original and continuing desire of the subject of this Memoir was to rise in the world: in rising he raised others; every step which he took in the development of a great trade meant, of necessity, an increase in the numbers of the men engaged in that trade in every grade. His wise boldness in enterprise was shown, no doubt, in the pursuit of his own advantage; but the effects of it were far-reaching; and as his position grew more important, it became necessary for him to consider, not only his own interests in this juncture or that, but those of the trade at large. For nothing is more clear than that the great employer of labour—and Mr. Nixon became that and more after many bitter struggles with circumstances—has a position of heavy responsibility, and the greater the employer the deeper the responsibility, since every mistake or miscalculation that he falls into must inevitably react upon the men who depend on his prosperity for their livelihood. To the writer, who has found it necessary in the course of his professional life to pay close attention to the principles upon which great industrial enterprises are conducted,

there has come, in course of years, a feeling that the mere visionary obtains far more credit than is due to him, and that the honest and unpretentious man who attends to his own business and professes no high-souled motives is the best friend of the community. That feeling has certainly grown stronger as the pages of John Nixon's life have become more numerous, and as the benefits to others which followed upon his many triumphs have been multiplied in evidence.

This Memoir, then, is devoted to the remarkable and inspiring career of a man whom the vulgar would call self-made, though he himself would have been first to protest that he had not been the sole architect or the only builder of his own great fortunes, and the first to express that heartfelt gratitude to that guiding authority, infinitely above all that is human, which none but the most ignoble of men will hesitate to acknowledge.

It is not, however, merely because John Nixon, starting upon life in modest circumstances, and with no apparent advantages, made for himself a great place in commerce and accumulated great riches, that his biography has been undertaken. Many men whose lives are not worthy to be written have achieved that measure of success, and the manner and methods of the achievement

have not always been commonplace. Some elements of romance, some striking incidents, some crucial and exciting periods of development are, indeed, to be found in the history of the building of the majority of large fortunes ; and sometimes, it is to be feared, each step in the accumulation of riches by single individuals has been accompanied by incidents which are not pleasant in the contemplation. Fortunes have been founded on successful frauds, undetected, or steering clear of the criminal law, and the larger the fraud the greater the fortune ; also, in many cases, the more romantic the story. Many men have grown rich through the sufferings of others, whom they have deluded into sinking all that they had in the purchase of that which had no value ; many have risen in the world by taking advantage of the necessities of their helpless neighbours ; and there was something of cynical truth in the observation lately made by one who was invited to be present at a banquet celebrating the successful floating of a joint-stock enterprise out of which the promoters alone profited, that he preferred not to feast at the expense of widows and orphans, or to revel at the cost of simple-minded victims of the company promoter in the rural districts. In the stories of fortunes

thus acquired, if they be told truthfully, which is a rare thing, may be found the romance of unpunished crime, of heartless cruelty, of crafty chicanery ; but in the reading of them there is no profit, and the knowledge of them not only sickens every honest mind, but tends to make men despair of human nature.

Nothing of that kind is to be found in John Nixon's life's story. The soul of fearless honesty, he might fairly boast that no man, woman, or child was ever the poorer for the money that came to him. But he might claim, or we may claim for him, a far higher merit than that, for the principal, indeed the only, reason why the life of John Nixon is now written is, that he was one of the chief founders and a pioneer among the principal promoters of the prosperity of a great district of the country, and that in the course of a long business career he contributed as much perhaps as any man living to the support of a huge and thriving community. It is on that ground, which will be established abundantly and demonstrated beyond question in the sequel, that the career of this successful man is worth recording ; and in the record an earnest effort will be made to give a faithful picture of the character of the man who, by his life's work, has conferred benefits so great

upon his fellow-men. We shall endeavour also to lay emphasis on the particular abilities which enabled one man to accomplish so great a purpose, and to explain the principles, followed without a moment of indecision or inconsistency from beginning to end of a long career, which guided the actions of a strong man at every crisis of his life. In that life there were, almost as of course, many striking incidents, many critical occasions upon which the balance seemed to lie evenly between irretrievable failure and well-earned success. Of such incidents and occasions our object will be to give as complete and intelligible an account as may be possible. But the character and the abilities and the principles of the man are the essential matters. These and these alone enabled John Nixon to perceive opportunities to which others had been blind, and to seize them at the right moment ; these and these only enabled him to pass triumphantly through crises which would have overwhelmed many other men, and to meet grave difficulties in a fashion which few other men of his time could emulate.

It can surely not be wrong to preface the story of a remarkable life by a brief summary of the qualities and the powers and the principles which made that life remarkable ; and in reading that

summary any man entering upon life may wisely console himself with the reflection that, if Mr. Nixon possessed talents which are given to but very few persons in a generation, the principles which he followed, and the rules of conduct which he obeyed, are within the reach of all men. First and foremost amongst them may be placed unswerving and unflinching honesty, which was never affected by even the most severe temptation. Mr. Nixon, as he rested in well-earned leisure at Brighton or in Scotland, never separated from the faithful terrier appropriate to a Durham man, took honest pride and pleasure in fighting his old battles over again. But he was constitutionally modest, and averse to discourse upon his own merits. He never said a word about his honesty. Yet those who pursue this narrative a little further will see that, early in his career, he resisted instinctively, and without a moment's hesitation, temptation as urgent as any that ever assailed any young man. The resistance is the more to be commended in that Mr. Nixon was at no time blind to the present value of money in hand, and as acute in driving a bargain as any of his contemporaries. Detail would be out of place at this point ; suffice it to say that temptation came early, in an urgent form, and was

resisted manfully. Thus, when Mr. Nixon was still quite young in business, and when he had very little experience to look back upon, he received an important appointment in connection with some coal and ironworks in France, owned by an English company, at a salary of £500 a year. The salary may not seem great, having regard to the sums of money with which he was afterwards called upon to deal; but in comparison with his previous circumstances it was, in his view, almost princely. He found himself, however, unable to enjoy it for any long period, and he was prepared, if necessary, to sacrifice it at once. Examination of the mining ground convinced him in a short time that the company's concession was valueless, and he forwarded to his employers a report to that effect. It is impossible not to see, and there is no doubt whatever that Mr. Nixon was fully conscious, that by sending in this report he was jeopardising his position, and virtually inviting his employers to dismiss him on the spot. Had they done so, he would have been deprived of the whole of his means of subsistence; but, once convinced of the worthless character of the concession from the business point of view, he never hesitated for a moment, and all the efforts of the directors to induce him

to modify his opinion were unavailing. How the directors upbraided him, how they subsequently sent out another engineer, hoping for a more favourable report, and how they afterwards requested Mr. Nixon to continue in their service for a while, shall be told in the proper place. The point for the present is that, at the first severe trial, and of its severity no person who has enough imagination to put himself in Mr. Nixon's place will entertain a doubt, the purity of his purpose, the sincerity of his mind, and his instinctive incapacity to be dishonest, even when there were plenty of plausible excuses at his command, were immediately made manifest. The same qualities marked him through life, and it is not too much to say they are within the reach of all men.

It is not pretended that the story of Mr. Nixon's life is that of a man quixotically generous in all his dealings; but it is urged that the spirit of undeviating honesty animated him throughout his career, and became a persistent instinct.

In harmony with that ever-present instinct was the motto—often quoted in old age—upon which Mr. Nixon constantly strove to regulate his dealings with the very numerous bodies of working men, and with others who held higher

positions in the business world, whom he encountered during his active life. "Fairness and firmness," he was accustomed to observe to his friends of age, "are the two guiding principles of life." Whenever friction arose between him and those who were in his employment—and, as every employer of labour knows, friction there must be, in the nature of things, from time to time—he always devoted himself with patience to the consideration of alleged grievances and to reflection upon the question at issue. But when once he had reached a decision, when he had made up his mind upon the course to be pursued, he was absolutely resolute and inflexible; and when this became known in South Wales, when the working men recognised the justice and the strength of the man with whom they had to reckon, friction naturally became less frequent in its occurrence. It is almost antediluvian to quote Horace in these days, but surely the lines—

"Justum et tenacem propositi virum"
 Non civium ardor prava jubentium,
 Non vultus instantis tyranni
 Mente quatit solida. . . .

 Si fractus illabatur orbis
 Impavidum ferient ruinæ"—

are as applicable to Mr. Nixon as they were to

Augustus himself. Even in his declining years, when he was among the men who are "so strong that they reach fourscore years" and more, conversation with him left the clear impression, which a knowledge of his life justifies, that he had been the sort of man who never was beaten, who would have faced commercial ruin rather than yield a position which he had taken up deliberately, after full consideration, and in the sincere conviction that he was right. A signal example of Mr. Nixon's steady pursuit of these principles will be found in his conduct upon the great question of the "Billy Fairplay," of which it is enough to say here that, after months of ignorant opposition and loss through the stoppage of his collieries, he succeeding in substituting an infallible machine for a frail and fallible man, to ascertain the proportions of small and large coal brought up from the pits. The episode, looked back upon from the haven of later years, is not wanting in its amusing features. It is almost laughable now to think that men resisted for a long time, at the cost of great suffering to themselves and their families, and to the great pecuniary loss of their employer, the introduction of a machine which, demonstrably, could not lie, and which is now in universal use not only in the

coal-fields of South Wales, but in the Midlands and the North. But it was not at all amusing then.

Meanwhile, an appreciation of Mr. Nixon's conduct upon that critical occasion in his career can hardly fail to be of service to the captains of industry now. They also have their trials to encounter—trials similar in nature, albeit not identical in point of detail, with those which beset their forerunner—they also are compelled to resist prejudices seeming to those who know better to be founded on incredible perversity and ignorance. To resist those prejudices firmly and patiently is to follow the principles of Mr. Nixon; to combine that resistance with patience, and to combat prejudice without indulging in the feeling of resentment, remembering always that working men are easily led by those who set themselves up as leaders of their fellows, and that past history has given them some just cause for suspicion of employers, even when their designs appear to be innocent—that also is to follow the example of a man who is well worthy to be imitated.

It cannot justly be said that to be fair and firm is beyond the attainment of any man, although, in fact, many men are unfair, and

many are irresolute, and very few attain to firmness and fairness in combination. But it must be confessed that Mr. Nixon owed his great victory in this case to a power outside these qualities—a power which he possessed in no common measure of fulness, a power which is exceedingly rare. The initial difficulty stared him in the face. He had to deal with a mob of men who had half-murdered the “cropper,” or guesser at the proportions of large and small coal—in whose interests, as an institution, but not as an individual, they were prepared to fight to the end of a bitter struggle. It was at this point that Mr. Nixon’s genius, for it was nothing less, came into play. On the spur of the moment, so to speak, he invented the mechanical appliance which was to solve the whole difficulty at once and for ever. The advance was as great as that from the period of calculation as to the time of day based upon rough observation of the sun’s position to that of the chronometer. The invention was an inspiration. Moreover, it will be found that at all stages in his wonderful career Mr. Nixon was always capable of inventing, and did, in fact, invent and perfect, time after time, whatsoever machinery was required to cope with a

new difficulty, or to remove a long-standing hindrance. To the attainment of that kind of faculty there is no royal road, perhaps no road at all which is attainable by ordinary men. It was inherent in Mr. Nixon's nature, that is all ; but we suspect its presence, in embryo and undeveloped form, in many men who have never been at the pains to try how much they could do.

Fairness and firmness, patience in calculation, prudence in judgment, and resolution in accomplishment were also shown in a high degree by Mr. Nixon in connection with the support and the carrying out of the sliding-scale system, of which Sir William Lewis was the true discoverer. Of this institution, which has done marvels to insure the steady continuance of industry and prosperity of South Wales and Monmouthshire, so far as the coal-fields are concerned, we shall speak at some length later, since we are assured that it confers unqualified benefits, and those of large value, upon master and man alike ; that it is capable of extension to other coal-fields ; and that there are other trades than the coal trade into which it might be introduced with advantage. But the time to describe it, and to make it understood

more thoroughly than we believe to be generally the case at present, has not come yet.

No apology is offered for the space devoted to the description of our subject's character and powers, since the description is essential to a right understanding of his career. If his fairness of mind, his indomitable resolution, and his mechanical genius were the first factors which went to the making of a great career, they by no means stood alone, and there was still the master-quality behind them. Mr. Nixon had eyes to see, as most men have; but he was not satisfied to see alone—he observed keenly, which is a very different process to mere seeing, and a far more intelligent; and when he had seen, he reflected; and if reflection convinced him on reasonable grounds that the things which he had seen done on a small scale could be accomplished on a large scale, he set himself to work to carry them out on that large scale. He was observant, enterprising, prudent, courageous, and indomitable; and for shrewdness of foresight and width of ideas he had but few rivals in his generation.

Many men must have seen Welsh steam coal burned on a Thames steamer before Mr. Nixon saw it almost in a casual way. But of the others,

few, if any, paused to inquire concerning the characteristic qualities of the fuel, or to put questions to the man who was using it. Mr. Nixon, as we shall see, not only paused to ask intelligent questions, but also applied his mind to the consideration of the meaning of the answers. In fact, that little voyage on the Thames steamer was one of the turning-points of his life. His observation and consequent questions, and the answers given by the fireman to his inquiries, were the seed of a great idea, which soon germinated and began to grow, and eventually became a mighty tree, which, scattering its seeds year by year, spread, so to speak, into a forest. Mr. Nixon saw, in fact, what hundreds of men must have seen ; but his distinctive merit was that he took practical advantage of the things which he saw, and seized a great opportunity. He recognised that this fuel was not only suitable for steam purposes, but far more convenient, economical, and effectual than that with which he was familiar, above ground and in the bowels of the earth, in his native county of Durham. Forthwith his active mind began to work, and soon he had devised, in outline at any rate, the ambitious scheme which was to be the foundation of his great success in life. He

would, he determined, develop this idea ; he would turn to practical uses the results of his observation. He would find or make a foreign market for this unique product ; he would begin by arranging for a supply from South Wales to France, with which he had some acquaintance already. He would introduce the fuel to the great manufacturers, sugar-refiners, and others, whom he had seen using very inferior materials during his years of residence abroad. Steamers stoked with Welsh coal should navigate the waters of the Loire. If England was so far blind, or almost blind, to the value of a store of wealth which since those days has been proved to be incalculable, if not practically inexhaustible, France should lead the way and show the example. He might have to wait before realising his ambition ; but he would assuredly not forget his object, nor miss an opportunity.

Nothing in Mr. Nixon's career is more vividly illustrative of some of the qualities which made him a successful man than the story of the introduction of Welsh steam coal to Nantes. It shows in him a mental habit which so far we have not had occasion to notice. Indomitable we have seen him ; we have spoken also of his absolute honesty of spirit. But amongst his other charac-

teristics was a constitutional inability, so to speak, to be contented with that which was merely satisfactory, so long as he was convinced that there was room for improvement. Perfection was his goal—not safe mediocrity. He lived as though the lesson embodied in the parable of the Talents had sunk deep into his heart. Thus, no doubt, to refer to the incident of the “cropper” already noticed, Mr. Nixon could have found more croppers to be stoned and half-drowned in their turns, and could have jogged along in his business as a coal-owner for years in some comfort; but the idea of “Billy Fairplay” flashed upon him, and, by forcing it forward, he introduced, while pursuing his own interests, a reform of which the benefit extended to others. In like manner, as the sequel will show, when first he visited South Wales he found the collieries worked upon a system which, wasteful and improvident as it was, satisfied the locality, and was established on an apparently immovable foundation of tradition. He might have tolerated that system, as others tolerated it. But toleration of that ignoble kind was not in the nature of the man. It was repugnant to his practical mind. It revolted against his conviction that employers who desire to go to the front in the struggle for

fortune must put an end at once to systems which are obsolete and wasteful.

To see work carried on in any other than the best and most effectual fashion irritated him beyond bearing. That which was best was to his mind the only thing worth having. So, when Mr. Armstrong, now Lord Armstrong, in competition for a prize offered by the Glamorganshire Canal Navigation for the best device for loading coal into vessels, submitted a fairly serviceable machine and won the prize, Mr. Nixon immediately suggested an improvement which added incalculably to the value of the invention. Development, ceaseless striving after that which was best, restless dissatisfaction with that which was inferior, marked the man through all his days; and it is not too much to say that the man who combined cool, prudent judgment with these aspirations contributed much to the welfare of his neighbours in following his own fortunes, great as those fortunes became in the long-run. Such was the case in the enterprise at Nantes, to be recounted later, which is a remarkable instance of the romance of commerce. The sugar-refinery would have been satisfied to go on in the old way; the formidable obstacles of ignorance and prejudice had to be

overcome among the ship-owners and their men; the South Wales coal traders would have been satisfied to carry on their business in their own slow and crystallised fashion. But John Nixon saw at a glance all the great potentialities of the situation, and determined that, poor as he was, and dear as his hardly-earned money was to him, he would be the man to realise for his own benefit the opportunities which coal owners at large were wasting, and that he would devote his life to the promotion of the South Wales coal-trade. With characteristic energy and enterprise he threw himself into the breach, and in the end carried his scheme to triumphant success, sparing no effort and no personal exertion, showing in his own person an example of tireless industry and unfaltering resolution. There is a saying in Lancashire, quoted very often at the time when the accomplishment of the construction of the Ship Canal seemed hopeless, which seems appropriate to John Nixon's career: "Manchester never was beaten," men used to say; it might be said with equal truth that John Nixon never was beaten either. It was the unflinching courage with which he threw himself—choosing Nantes as the field of operations—into the development of his great idea,

that added the romantic element to the story. In commerce, as in war, there is room for bold adventure. As by great heroism on the field of battle, or by wonderful exploits, a soldier may win high renown, so the soldier of commerce, who risks all that he possesses in the pursuit of a grand idea and succeeds, wins reputation and the esteem of his generation. Such was the case of John Nixon. When he started on that expedition to Nantes he was a poor man, possessed of no more than a few hundred pounds, the savings of a few years during which Fortune had been by no means prodigal of her smiles. All those savings he staked upon the practical value of his idea, and we shall see that in proving himself to be right, and in positively forcing men to be of his opinion, he carried out his experiments with every circumstance of generosity. Hence comes it that every step which he made at Nantes, every triumph over prejudice that he secured, every cloud of ignorance which he dispersed, is a matter of deep and human interest. It was not indeed a case of *sic vos non vobis*. To make the fortune of John Nixon was his primary and principal object. But the effect upon the world for good was as great as if he had been

simply a preacher of improvement. No man can be the pioneer of a trade or open a new market for himself alone ; whatever his motives may have been, others, who have not sown, must reap part of the benefit.

How Mr. Nixon performed many other great achievements, how he opened new coal-fields, how his dominant personality influenced the development of the coal trade, how in early days he was instrumental in enlarging the ideas of the Bute Dock Trustees, how he maintained his views against the most eminent engineers of the day and was proved by results to be in the right, how he forced the unwilling Great Western Railway Company to meet the needs of the coal trade, it is neither necessary nor appropriate to record at this juncture. It is enough to say that, by universal admission, he is entitled to claim the honour of being one of the principal pioneers of the colossal coal trade of South Wales. In other words, he is the man who evolved the idea of developing the trade in Welsh steam coal, and forced the whole commercial world to recognise its value, the late Marquis of Bute having previously provided the necessary dock accommodation.

It can hardly be out of place here to give a general indication of the results of the great work

accomplished by these two great men ; for each was great in his own way, and the exertions of each no doubt contributed to the ultimately successful results of the efforts of the other. We do not say that the trade in Welsh steam coal would not have grown without Mr. Nixon's intervention, nor do we place him side by side with the late Lord Bute as a benefactor to the community. Lord Bute comes first by a long way ; for certainly, but for the public-spirited enterprise and colossal expenditure of Lord Bute in the construction and subsequent extension of the docks, of which the first, the West Bute Dock, was opened in 1839, the coal trade could not have moved so rapidly as it did under the impetus originally given to it by Mr. Nixon principally, which impetus was followed by continuous pressure on his part. An outlet for the mass of pent-up riches lying in the heart of the Glamorganshire hills would have been found in time no doubt, for there were plenty of sagacious men of business in South Wales. Still, Mr. Nixon was first among the first to introduce a spirit of enterprise which would brook no denial, and to him, as to others, the Bute Docks were a godsend. It may be that if the Bute Docks had not been built at great cost and risk to the Bute Estate, other docks would have been constructed, as in fact

other docks have been constructed since. Still, the docks were there, ready to the hands of Mr. Nixon and of those who followed in his train, and offering incalculable advantages to him in the development of his great idea. Moreover, in the absence of municipal enterprise, which could hardly exist in the little town of 6000 inhabitants, which was all Cardiff was when Lord Bute secured his first Act of Parliament for the West Bute Dock in 1830, Lord Bute was the only individual in the vicinity, and the Bute Estate was the only institution, which could prudently undertake the vast speculation of the docks, or which could by any means obtain the necessary funds for the purpose of construction.

Even for him the enterprise was in no common measure courageous and public-spirited. The thoughtless man casting his eye over the long length of quays, the crowded shipping, the labourers engaged in unloading, the huge buckets of coal descending into the holds to be dealt with by the armies of trimmers below, is a little too prone, seeing so much of the evidence of great wealth before his eyes, to assume to-day that the whole scene before him is proof positive that great profits are flowing directly into the pockets of the dock-owner. Those who have

paid serious attention to the problem of our ports are better informed. They know from examination of figures that there are but very few docks in England or Scotland which, having regard to the amount of capital represented by them, pay anything that could be called an adequate commercial interest upon that capital. There is no doubt whatsoever that the construction of the docks at Cardiff, an enterprise for which the late Lord Bute deserves lasting credit, placed him and the estate in severe pecuniary straits. The West Bute Dock alone cost, exclusive of timber and stone from the Bute Estates, no less than £350,000. A large part of that money, of course, had to be borrowed, for a great peer, with a thousand calls upon his purse, to which he was at all times ready to yield when they appeared to be worthy, was the last man in the kingdom to have so vast a sum in cash accumulated and ready to his hand. It is indeed an open secret that for many years the gradually-increasing docks did not return directly to their owner much more than half the sum which was payable by way of interest on the money borrowed for their cost.

Indirectly, of course, the docks were a profitable investment ; but the profit was indirect only, and the lion's share of it went to swell the riches

of others than Lord Bute, of individuals and corporations and estates that had not staked their very existence upon the issue of the great adventure of construction. It would be rash to say how much the value of the coal properties in the Glamorganshire hills has grown since 1830, or how manifold is the value of land in and about Cardiff with its teeming population of to-day as compared with its value when Cardiff was little better than a considerable village. Only it must be pointed out that neither in the hills nor in Cardiff, extensive as the Bute Estates are, is the land the property of Lord Bute alone. In a word, numberless other owners have reaped where he has sown. If what is called "unearned increment" were to be redistributed, as some political fanatics hold that it should be, on the principle that he who made the increased value should receive his reward, while the community should take that to which no man could prove a clear claim, the Bute Estates would be even richer than they are, for there is no end to the benefits conferred, not merely to a vicinity or to a district, by the creation of a great port, the promotion of a vast industry, and the development of a huge trade.

Such, we take it, is the great work which

the late Lord Bute and his successor, aided by men of unusual ability and foresight in their employment, and receiving priceless support and encouragement from such men as Mr. Nixon, who may be called the father of the steam-coal trade, may claim to have done for South Wales. Moreover, the value of their work is enhanced by the fact that they came to the rescue of a dying industry, and were able to rescue from the misery which comes of wageless and unwilling idleness a population already considerable. It is well known, or ought so to be, that the iron ore of South Wales used to be extracted for smelting purposes in great quantities in South Wales, and that now it has been entirely supplanted. The discovery of the potentialities of steam coal by Mr. Nixon—for it virtually amounted to that—the impetus which his energy gave to the trade, and the opportunities for the creation of a great port at Cardiff which had been given by the Bute Estate, saved the miners and the population formerly employed in the ironworks from starvation and ruin, and provided employment for a population infinitely larger than South Wales had ever contained before. The most striking evidence of the inestimable work done principally by Lord Bute, but largely by Mr. Nixon—they

are deliberately called great men—is to be traced easily in the wonderful rapidity of the growth of Cardiff. At the beginning of the century the population was but 1018; it was a mere hamlet. In 1811 Cardiff contained but 2457 souls; in 1821, 3521; in 1831, 6187; and then began, with the development of the mineral wealth of the country—a development rendered possible only by the construction of the docks, but in which John Nixon took a very leading part—such an increase of population and wealth that Great Britain can afford no parallel to it. Following successive decennial censuses, we find a leap, stating the inhabitants in thousands, from 6000 to 10,000, from ten to eighteen, to thirty-two, to fifty-nine, to eighty-five, until now Cardiff has a population of more than 150,000 persons, and is the first coal-exporting port in the world. And still this Cardiff, with its thronging population, continues to grow larger every year, and can also boast that, in spite of party quarrels amongst those who govern it, it may challenge comparison with any city in the kingdom by the excellence and abundance of its public buildings and the comprehensive and convenient design upon which it is laid down. It is emphatically a great place, having a rateable value of nearly three-quarters

of a million of money ; and in the making of its greatness, John Nixon, a man who began his business career as a modest yeoman's son from the distant county of Durham, a stranger, without money, and without even the foundation of a complete education, but possessed of great commercial talents and qualities, played a leading and a principal part. That, beyond question, was a great achievement, and worthy to be recorded.

CHAPTER II

EDUCATION AND APPRENTICESHIP

JOHN NIXON first saw the light on the 10th day of the month of May 1815—that is to say, during the armistice preceding the great battle of Waterloo, and just before the Prince Regent conferred his final title upon the Duke of Wellington. The place of his birth was Barlow, a village in the northern part of the county of Durham, which was situate seven miles to the west of Newcastle-on-Tyne, and three miles south of the famous river itself.

Certainly when the infant was born none could have foreseen the direction which his subsequent career was destined to take. He was the son, and, as things turned out, the only son, of a tenant-farmer ; and his father came of a stock of Nixons who had held the family holding for four continuous centuries. To have prophesied a brilliant career in far lands, and in a distant part of the country, for the child born in such circumstances, would have been to invite laughter. “Nay,” the neighbours would have said, “the

lad is a Nixon to the backbone. Tough and long-lived, for it is the custom of the Nixons to live to a great age, he will succeed his father in the farm, and till it, and flourish in his modest way, like his ancestors before him." Yet to those who had skill to read the signs of the times it must have been plain that a wholesome spirit of unrest was awake in the county of Durham, and that a farmer's son who possessed the requisite qualities might go far to the front and win many a victory in the battle of life. In the preceding year George Stephenson, having begun work at the age of seven as a "trapper" (an office inferior to that of the "waiter," who earned but five shillings a week), had been hailed as the discoverer of the safety-lamp, and had received for a testimonial a thousand guineas and a silver tankard. In the preceding year this same George Stephenson had placed his first locomotive engine on the rails at Killingworth. In a word, the age of steam and coal had begun, and its birthplace was in or about the county of Durham. True it is, that James Watt of Glasgow had long before this made such improvements in the application of steam-power to stationary engines, as to be rightly hailed as the inventor of the steam-engine ; but the locomotive, which was the very

embodiment of the spirit of unrest, was a product of Durham, and the invention of a Durham man. Other young men born in the county were also at that time at the opening of careers destined to be great, amongst them being he who afterwards became Sir George Elliott.

Still, John Nixon's early education was not calculated to rouse ambition in the mind of a lad whose life seemed to lie plainly before him. Like other village lads, he was sent to the village school, and there is no reason to suppose that the Barlow school was any better in quality than other village schools of the time. But the sturdy northern farmer seems to have discovered some signs of promising ability in his little boy, for when the lad was still quite young he took the step, a serious one for him, of sending him to Dr. Bruce's Academy at Newcastle-on-Tyne. Whether Dr. Bruce's school was large or small we are not aware, but it is at least certain that Dr. Bruce was a teacher of the highest ability, and that quite an extraordinary number of lads passed through his hands to become, in due time, mining- and civil-engineers of the highest repute. Young Nixon did not meet the immortal Robert Stephenson as a schoolfellow, for Robert was twelve years his senior. But Dr. Bruce had

educated Robert Stephenson, for whose education George Stephenson had made great sacrifices. "I have known the day," said the elder Stephenson once at a public dinner in Newcastle, "when my son was a child, that after my daily labour was at an end, I have gone home to my single room, and cleaned clocks and watches in order that I might put my son to school." Certainly the boy Nixon saw a good deal of the Stephensons, father and son, and he remembers now the way in which, when anything went wrong with colliery machinery, George Stephenson was always sent for, and never failed to perceive, with flashing rapidity of intelligence, where the defect lay, and how it could be remedied. Other distinguished engineers educated by Dr. Bruce were Mr. Nicholas Wood and Sir George Bruce. The Mr. Nicholas Wood here mentioned was probably the son of the gentleman of the same name into whose employment at Killingworth Robert Stephenson entered three years after his father had placed the first locomotive engine on the rails at the same place.

Many great mining-engineers have risen from comparatively humble positions to high place, and it is their modest custom to attribute their prosperous lives not so much to any special

ability in themselves as to their good fortune in meeting excellent mathematical teachers in early life. One of them, described by Mr. Nixon as "incomparably the best mining-engineer in the kingdom," has been heard to express in this manner his debt to a certain Mr. Williams, once "the cleverest teacher of mathematics in Wales," but now forgotten. If this prince of engineers, who is also a strong commander of men and the dominant influence in a great district, is proud of anything, it is of the pains which he took to walk to his teacher, night after night after a day's hard work of twelve hours. It never seems to have occurred to him that something near akin to genius was necessary before the pupil, even of the best master, could turn his mathematical acquirements to brilliant uses. Still, when one private school sends out such a succession of notable engineers as that which came from Dr. Bruce's Academy, it is just to conclude that this Dr. Bruce was not only himself a mathematician of the highest quality, but also capable of imparting his knowledge. Certainly, in the young lad from the farm at Barlow, Dr. Bruce found an apt pupil. Very early in his brief career at the Academy, we find young Nixon permitted to enter for a prize which he was too young to be

qualified to take, and acquitting himself with such distinction that a special prize was awarded to him ; and a little later the same Dr. Bruce, in the course of an examination of the lad in Euclid, was so deeply impressed by the readiness and accuracy of his answers that he closed the book with the observation that, since the pupil clearly knew as much as the master, it was waste of time and trouble to continue the process of examination.

To the public-school boy of to-day this accomplishment of young Nixon's may seem no great matter ; most public schools could produce at any moment numerous boys to whom Euclid is child's play, boys who have soared into the ethereal mysteries of the higher mathematics. But these so-called boys are really young men of seventeen and eighteen, in the training of whom the most expert teachers have been engaged for many years. Those were not the principles on which a farmer's son in the North Country was educated in pre-Victorian days. Young Nixon went from the village school to Dr. Bruce's Academy to complete his education, and his education was considered to be complete when he was no more than fourteen years of age. The active life of the Tynesider began at this tender age.

In fact, when the writer saw him last, in full possession of all his faculties, with a keen eye on his complicated business connections, full of reminiscences grave and gay, Mr. Nixon could claim that he had earned his own livelihood (and a great deal more) for nearly seventy years. He began the work of life, in fact, at the age at which the youth of to-day begin the serious part of their education, whenever they take education seriously at all.

At this point there seems to have been every danger that John Nixon's mental development might recede instead of going forward. It seemed to be foreordained that he should continue in the same rustic groove which generations of sturdy Nixons had moved upon before him. The familiar old song sums up and describes his daily occupations for the next two years. He may or may not have said to his father—

“So, wilt thou me employ
To plough and to sow,
To reap and to mow,
And be a farmer's boy?”

Certainly those were his occupations; and when the wind sweeps from the North Sea in winter over the farm-lands of Durham, there are elements in the life of the northern farmer which are not

in the least suggestive of pastoral poetry. No doubt, however, so far as the mere animal part of him was concerned, the lad enjoyed the rustic life keenly ; for the man, at all periods of his life, always showed the most intense zest for life in the open air, and he was never happier than when, after the fruits of his labour and energy permitted him to engage a grouse-moor every year, he tramped the heather, gun in hand, from morning till night, at a pace which tried the endurance of his lustiest friends and companions. No doubt, also, the hardy life in sun and storm during these two years helped to fortify and establish the iron constitution which was invaluable to him in after life.

But the limits of the ancestral holding were not wide enough to satisfy the budding ambition of John Nixon or to provide a vent for his abundant energy. He could not be content to remain upon it. Husbandry is the first and the most honourable of occupations, and it calls for that which it does not always secure, intelligence and capacity in the husbandman. But as in husbandry one does not take a keen razor to mow hay, so there are men of intellect so sharp and of brain so large that for them to content themselves with the pursuit of the farmer's

occupation would indeed be a case of burying a talent in a napkin.

So John Nixon determined to make his venture in the great world of business and of commerce, and living as he then did in the middle of the coal district, chose that form of business which lay nearest to his hand. He accordingly apprenticed himself to Mr. Joseph Gray of Garesfield, then well known in the colliery world as one of the leading mining-engineers of the North of England, and occupying the position of chief mining agent to the Marquis of Bute. How assiduously Nixon worked, allowing no detail to escape his observation, how deep an impression he made upon his master, Mr. Gray, may be seen from the actions of Mr. Nixon himself in after life, and from the readiness with which Mr. Gray, when the opportunity came, exerted himself to serve the interests of his sometime apprentice. Nixon was to have many connections with the Bute Estate in after years, but during his apprenticeship he was of but little apparent importance to the Bute Estate or to the world at large, and at the expiration of the term of that apprenticeship he was nothing more than a young man with all his troubles before him, who knew his work passing well, but had

no opportunity of showing his knowledge or of turning it to profit.

His apprenticeship over, he was compelled to choose between idleness and inactivity, or work in a position far below that to which his ability, and his technical training too, by this time entitled him. Idleness, however, was probably not possible for him from the financial point of view. Besides that, it was entirely foreign to his disposition, and he had the sense to see, to use a commonplace expression, that by accepting a temporary and inferior position he would gain a practical experience in colliery work, which might be of great service to him in later life. For to a man who is to be engaged in great business transactions, as in truth to every man whose life is to be one of serious work of any kind, no experience ever comes amiss, and each fresh step in knowledge is a distinct and practical gain. So John Nixon, finding no opportunity of an engagement as a colliery manager, did not disdain to accept the position of overman at Garesfield Colliery, at the magnificent remuneration of 3s. 6d. per day, a rate of pay at which the commonest working collier of 1899, in spite of shortened hours, would laugh with scorn. And John Nixon's hours of work were such that,

in order to be in time at the colliery, he had to rise at four o'clock every morning and walk two miles to his work, which ended at four o'clock in the afternoon.

Fortunately for him he was working within reach of the eye of Mr. Gray, who not only saw that the young man was industrious and attentive in his work, but knew that he possessed by this time scientific training in addition to his great intelligence. Mr. Gray awaited his opportunity of promoting the clever and hard-working young man to better things, or of using his influence to procure for him a position more worthy of his intelligence; but to the young man, particularly as he strode to his work on the cold winter mornings, or trudged home after a day of laborious toil, the time of advancement must have seemed very long in coming. For two long years did he perform the arduous but by no means fascinating duties of an overman; for two long years did he thus receive that practical training which was to serve him so well in later life. And if during these years he came to know all the intricacies of coal-mining and its methods, if upon his exact observation and retentive memory every little detail made an abiding impression, if he gained that knowledge

of the habits and the thoughts of working men without which he could never have exercised such sway as he did over large bodies of men later, he must have reflected sorrowfully many and many a time that his chance would never come. Other men were rising fast. George Stephenson had become a leading man, and the occasional sight of him may have served to encourage the young man when he remembered how lowly had been the engineer's original position and how hard his struggles.

But it must have been a trying time for a young man who could not fail to be conscious of his abilities, who was filled with a proper ambition. No matter how resolute and patient he might be, no matter how full of life and strength, he was face to face with the plain fact that time was slipping away day by day, and his position was not mending in the least. Conceive a barrister who, after reading with a tutor in chambers and passing his examinations, had to betake himself to being another barrister's clerk ; imagine a surgeon who, after walking the hospitals and qualifying himself to practise, was driven to washing bottles for a more fortunate practitioner : of that character was the position of John Nixon during those weary years ; and

though he was never heard to complain, it is beyond question that he must have felt it very deeply. The time when a capable man is eating his heart out, beating in vain at the gates of Fortune, in the hopes of finding a scope for his energies, so that he may either sink or swim, but at any rate take his chance, in the rough stream of life—that surely is the most wearing part of any man's life ; and, in proportion to the man's powers and his consciousness of them, is the difficulty of patience and of courage.

CHAPTER III

IN SOUTH WALES

AT last Mr. Gray's opportunity of helping the young man to go out into life with fair prospects came, or seemed to have come ; and it was seized with a promptitude which showed how high was the elder man's opinion of the merits of his sometime pupil. An appointment in connection with the great iron-works of Mr. Crawshay Bailey, at Nantyglo in South Wales, became vacant in 1839, and was advertised in the Newcastle papers. In passing, it is worth while to notice that the connection between Newcastle and its vicinity, and South Wales and Monmouthshire, rivals in trade as the two districts are, has at all times been close. You may hear Welsh spoken in the great works at Consett to this day ; and Welshmen are to be found occupying the highest positions in the industrial community concentrated at Consett, and directing the destinies of the huge enterprise connected with the name of Bolckow, Vaughan, & Company. So, adventurous men from the banks of

the Tyne, Sir George Elliot for example, have found their way to South Wales, and have reached the highest places in the commercial community there. The young man of twenty-four, who came from the farm-house at Barlow, was destined to be one of these.

The advertisement appears to have been somewhat vague in its phraseology, but it sufficed to tempt Mr. Nixon to become an applicant, and, in his application, he had the cordial support of Mr. Gray, who, as the trusted adviser of Lord Bute, was widely known and respected in South Wales. He also secured the recommendation of Mr. Plummer, a partner of the Taylor family of Ryhope, who had extensive connections, and a large business in the coal-working and coal-shipping trades. Eventually negotiations arrived at such a stage that, although no formal and binding engagement had been offered or accepted, and although, as a fact, Mr. Nixon was far from understanding the precise nature of the position which was vacant, it seemed to him worth while to proceed to South Wales in person; and, before the year was out, he accomplished the journey by the slow and roundabout method of the day. Two days in a stage-coach carried him no farther on his way than

to London. Then came a long drive from London to Bristol; then a sea passage from Bristol to Newport, Monmouthshire; then travel by tramway from Newport to Nantyglo. Five days to go from Newcastle to Nantyglo—such was the rate of travelling in 1839. If the conditions had been those of to-day, Mr. Nixon might have breakfasted at Newcastle, taken luncheon in London, and dined at Nantyglo.

It was on a Saturday evening that Mr. Nixon reached his destination and became the guest of Mr. Crawshay Bailey, who appears to have spent the first evening of their acquaintance in “taking stock,” as schoolboys say, of the young North Countryman. The great iron-master plied him with questions of every kind concerning the details of coal and iron work, with the object, no doubt, of making sure that he had got hold of a man capable of doing the work which was to be entrusted to him; and we may be sure that he obtained the fullest satisfaction, for, above all things, the young man knew his business. Still the evening passed away, and the Sunday also—men were not so prone then as now to transact business on Sunday—before any definite offer was made to Mr. Nixon. When it came it was a staggering disappointment. Mr. Nixon had

come all the way from Newcastle under the impression that the position vacant was that of chief manager of the whole great enterprise of ironworks and colliery, of which the former was far the more important, the output of the colliery being but 250 tons a day. To his great surprise he found that Mr. Bailey offered to him the management of the colliery only, and he did not hesitate to express courteously but plainly his astonishment that he should have been encouraged to come from the far North of England to discuss so insignificant an offer.

Far from being annoyed by Mr. Nixon's plain speaking, Mr. Bailey proceeded to unfold his intentions more plainly. He had, he explained, a manager in charge of the ironworks already, but he was not satisfied with the manner in which that gentleman performed his duties. He had never desired that Mr. Nixon should occupy permanently so inferior a position as that of manager of the small colliery connected with the works. That was merely temporary; it was no more than an excuse for having him on the spot until the opportunity came for dismissing the manager then in office.

At this point the independence and courage of Mr. Nixon's spirit showed themselves. He was

quite a young man, be it remembered ; he was absolutely unknown in the district ; he was without any substantial means ; he had burned his boats when he gave up his position, humble as it was, at Garesfield Colliery. To a man of ordinary character Mr. Crawshay Bailey's offer would have presented great temptations. The great iron-master, for Crawshay Bailey was certainly entitled so to be styled, had said to him in effect, "Accept this minor situation as a stop-gap, and, as soon as I can see a decent excuse for sending the chief manager about his business, you shall have his place." This meant that, if he was prepared to enter into this rather false position, he would have every chance of becoming chief manager of ironworks of the highest position and prosperity. But poor as Nixon then was, the whole idea was repugnant to his sense of frankness and his feeling of honour. It was suggested that he should serve under the man whom he was destined to supersede. This, of course, was not intended to be known ; but it was almost inevitable that, if Nixon accepted the position, the real intention of Mr. Crawshay Bailey should leak out ; and, when it did leak out, friction, ill-feeling, and awkwardness of relations must necessarily ensue. On the other hand, if by any chance the

intention should be kept secret to the end, Nixon could not have failed to feel that he was occupying an unsatisfactory and even treacherous position. On the one side, he was pressed by the knowledge that he was poor in purse, almost friendless, in a strange land, and that the offer made to him seemed likely to lead to prosperity in life ; on the other side, he was influenced by his sense of that which was fair between man and man.

It can hardly be said that decision in this crisis was the result of prolonged mental conflict. The young North Countryman, who, throughout his life, was marked by directness and independence of manner, informed the great iron-master that his acceptance of the position, offered under these very unpleasant conditions, would certainly involve undesirable consequences, and a very uncomfortable series of relations between him and the man he was to supersede ; and he insisted that, at any rate, he must not be pressed for an answer until he had made inquiries with regard to a vacancy at Dowlais which might or might not be open ; and Mr. Crawshay Bailey, to his honour be it written, assented to the suggestion at once. The shrewdness and the insight into colliery affairs shown

by the young man had clearly made a deep impression on his mind, and he said frankly that Nixon was far too able a man to be settled in the only position which could, for the moment, be offered to him at Nantyglo; and Nixon said that, if he failed to find suitable employment elsewhere, he would return to Nantyglo, take that which was offered, and do the best he could for his employer. But the admirers of John Nixon's character will be rejoiced that circumstances did not, in fact, compel Nixon to return to Nantyglo; and this particular admirer of a very sterling character is thoroughly convinced that, if it had come to the pinch, John Nixon would have gone back to Garesfield, and three and sixpence for a day of hard labour, rather than take formal service under a man whom it was desired that he should oust. For in John Nixon there was, from the beginning, a quality of magnanimity which, in spite of his keen eye for his own interests, rendered him physically and morally incapable of stooping to an ignoble action, or playing an insincere and mean part in the battle of life.

So, on the following morning, Mr. Nixon walked from Nantyglo to Tredegar with the intention of catching the coach for Llandaff; but when he reached Tredegar the coach was gone, and such

was the simplicity and freedom from luxury of the times and of the man that he started immediately to walk to his destination. Thirty-seven miles was the distance to be traversed by a man unfamiliar with the contours of the country, carrying a heavy coat over his arm; but when Mr. Nixon referred to the experience in later days, it was to dilate upon the extreme beauty of the extensive view which presented itself to his eyes at various points of the route. His powers of walking were, indeed, always remarkable, and his appreciation of natural beauty was always strong. His route led him by way of the Rhymney valley to Caerphilly, in which neighbourhood the characteristics of ancient Britain and modern Britain are present in startling contrast: for Castell Coch, the red ruins of which stand sentinel over the valley of the Taff, was a British stronghold before it fell into Norman hands; and the great ridge of hills, running from Glamorganshire into Breconshire, on which Caerphilly stands, is rich not only in natural and architectural beauty, but also in coal and iron, the working of which is not conducive to the preservation of the charm of scenery viewed near at hand.

But, as the solitary wayfarer crossed Cefn On,

his eyes rested on that magnificent panorama which is to be a possession of mankind for ever, since it is presented upon a scale so huge that no work of man's hand can destroy its lines of beauty. He looked down upon the rich surface of the Vale of Glamorgan; his eye rested on the waters of the Bristol Channel, on the Steep and Flat Holmes, and on the distant coastline of Somerset and North Devon. Little did he think then, as the infant town of Cardiff lay below him some seven miles distant, or when he turned his eyes to the northward over those rugged hills and valleys amongst which Aberdare and Merthyr, with their large industrial populations, nestle to-day, how great was to be his influence in a movement which should change the appearance of all the country-side, and find honest and profitable employment for tens of thousands of men.

The memory of that scene never perished in Mr. Nixon's mind, but at the moment he had his work to do. Six miles of hard walking still lay before him, if he was to reach Llandaff and to see Lord Bute's agent, Mr. Beaumont, that evening. Mr. Beaumont was the man to apply to, for the appointment of which Mr. Nixon had heard (but which might, for all he knew to the

contrary, have been filled up) lay within Mr. Beaumont's province. The question to be considered by Mr. Beaumont was that of granting a renewed lease of the Dowlais Works to Sir John Guest. Before that step could be taken, it was imperatively necessary that a thorough survey of the workings should be made ; and the question of principal interest to Mr. Nixon was whether he should be the man to make the survey.

Travel-worn as he was, weary after his long walk—for a cross-country tramp of nearly forty miles must be a serious exertion to any man—the steadfast young North Countryman had no sooner reached the cathedral town of Llandaff than he directed his steps towards Mr. Beaumont's house, and here came a humorous little incident which lingered in his memory. Mr. Beaumont had not yet come in, and the tired man, being shown into the drawing-room to await his coming, fell asleep. Mr. Beaumont's daughter coming into the drawing-room later, found a travel-stained stranger sound asleep and in possession of the room. Her surprise, and even her alarm, may be imagined.

When Mr. Beaumont returned matters were soon arranged. The appointment was still vacant :

that was one point gained; and although Mr. Beaumont and Mr. Nixon then met one another face to face for the first time, Mr. Nixon's abilities and his peculiar fitness for work such as that which required to be accomplished had already been described to Mr. Beaumont by Mr. Gray of Garesfield. A few minutes of conversation sufficed to indicate the nature of the survey which must be made: it was to include a thorough examination of the coal and ironstone workings, to be followed by a comprehensive report upon their condition, and upon the prospects of their providing food in the future for the ironworks and the furnaces. Such an examination must necessarily consume a considerable period of time, and the remuneration offered was at the rate of £150 per annum. That remuneration was far from being princely from the modern point of view, though it was handsome then; and it was at least three times as much as Mr. Nixon had been making during the two preceding years at Garesfield. Moreover, we may be sure that Mr. Nixon was alive to the advantages of entering upon a career in a new country in connection with an undertaking of great importance and responsibility upon an estate of the highest standing. To be employed

on behalf of the Bute Estate was then, as it is in these days, a much-prized privilege.

Before accepting the offer which Mr. Beaumont made there and then, Mr. Nixon recounted to his new acquaintance the story of his negotiations with Mr. Crawshay Bailey at Nantyglo ; and he was soon convinced that his reluctance to accept the position offered to him there had been as prudent as it was certainly honourable. Knowing full well the character of the then manager at Nantyglo, Mr. Beaumont was able to assure his young acquaintance that, if he had accepted Mr. Bailey's offer and the reasons of his presence at the colliery had become known, as surely must have happened, prejudice against him would certainly have been excited amongst the men, and his work would have been carried on under circumstances of the most unpleasant character and with constant disagreements.

Mr. Nixon, there and then, accepted Mr. Beaumont's offer, and, after a day spent in going to Nantyglo to inform Mr. Bailey of the fact that he was no longer at his disposal, he returned to Llandaff, intent upon going to work at once, and upon piercing to the very heart and core of the important problem which had been confided to him. A day later, having been placed in pos-

session of the plans of the Dowlais workings, he was at Dowlais, where his keen eye speedily detected faults which must be remedied, and which eventually were remedied, with the result that a beneficial revolution was effected in the whole system of underground colliery operations in South Wales.

But this revolution was not effected in a day, and we must proceed by steps. When Mr. Nixon went to Dowlais he found Mr. Thomas Evans established there in the position of General Manager, with his brother, Mr. John Evans, as Assistant-Manager. In sole charge of the entire underground workings was Mr. George Heppell, whose lot it became later to have charge of the whole of the Plymouth Collieries; while Mr. George Martin looked after the ironstone workings. These were the men upon the conduct of operations by whom, at Dowlais, the young man from the North had to hold inquiry and to pass judgment.

The task was of such a character as to require careful and prolonged attention: all working operations had to be inspected; sections of the various seams of coal and ironstone had to be taken; notes of quantities had to be taken. Moreover, the matter was of such importance

that, after Mr. Nixon had been at work for some weeks, it became necessary for Mr. Gray of Garesfield to come to South Wales to hear reports from Mr. Nixon as to the progress of his investigation, and, with him, to inspect the underground workings, especially the seam of "Big coal," then known locally as "Foes y fran," now known all the world over as the "six-foot seam." Here two wholly distinct pieces of mismanagement revealed themselves. Of these the first, since it was in harmony with the traditional methods of coal-mining in the district, was one for which the Dowlais Company could hardly be blamed; the second was of a different character, and was such that it at last almost led to legal proceedings against the company by Lord Bute. But the first was really the more important of the two. To Mr. Nixon, and to Mr. Gray when the subject was brought under his notice, the "pillar and stall" system of working, which was then in use throughout South Wales, appeared to be, as in fact it was, wasteful and extravagant beyond all belief. It was not until many years later that a determined stand against this system was made by Mr. Nixon, then a large colliery owner, who carried his point, according to his

custom, but not without a severe struggle. Meanwhile, from the standpoint of to-day, it is distinctly interesting to look back upon the nature of the antiquated system, not in any contemptuous mood, for fifty years hence men may ridicule our methods of to-day.

The steam coal of South Wales, as all who use it know, is peculiar in composition. As a counterpoise to its superlative merits, which will be explained more conveniently at a later point in this narrative, it is remarkably delicate in constitution and very liable to be crushed, so much so that a coal-owner of singular intelligence, but slightly prone to use hyperbolical language, has been heard to say that each large fragment ought to be packed in cotton wool, and that the black diamond ought to be treated with all the care that is given to the precious stone of Kimberley. This exceeding fragility is due to the peculiar crystallisation of the Welsh coal, which is fractured and triturated far more readily than North Country coal, and, when fractured, assumes distinct and characteristic forms. This delicacy also entails the necessity of using special care in the stowing of this coal in the holds of vessels, and has caused Sir William Thomas Lewis, the well-known

colliery owner and chief agent to the Lord Bute of to-day, to invent ingenious apparatus to the end that the precious fuel may be taken up and laid down in the holds of ships in huge quantities indeed, but with the utmost tenderness. Important, however, as it is in these days that waste by fracture and crushing should be minimised, it was a matter far more serious in the year when Mr. Nixon inspected the Dowlais workings ; for now uses are found for the small coal, which is converted into patent fuel, but in those days it was of no account, and the multiplication of it was useless waste.

What, then, was the system which prevailed when Mr. Nixon first went to South Wales? It was similar in principle—though the dimensions of headings, and stalls, and pillars no doubt varied in different collieries—to that against which he contended when he bought Deep Duffryn Colliery in after years. There the headings were driven three yards wide, the stalls were six yards wide, and a pillar six yards wide was left. True the pillar was worked off later, but in the meanwhile, denuded of support and crushed by the weight of the superincumbent strata, the coal composing the pillar had been so much crushed as to be almost entirely deprived of value.

Such, in principle, was the system which Mr. Nixon found to prevail underground at Dowlais, save that there the pillars were left behind altogether, being not considered worth working at all. With his practical and economical mind, however, he was not satisfied to draw a merely vague conclusion, and to report in general terms that there was much waste, but proceeded to make an exact calculation of the waste. The result of that calculation was that not more than forty per cent. of the great wealth of available coal was actually worked and turned to profitable account. In this respect it was hardly possible to blame the Dowlais Company, for no better method of working was known in South Wales at the time, and years were to pass before the "long wall" system, imported from Lancashire and the Midlands, was established in South Wales. On the other hand, Mr. Nixon discovered, by inquiries made of various persons in the course of his survey, that the underground operations at Dowlais were habitually carried on in an unbusinesslike and unworkmanlike fashion, which could not fail to be detrimental to the interest of Lord Bute. The colliery was not treated as a whole, so to speak, but piecemeal. Whenever here or there, in this part of the workings

or in that, there was an increase of as much as twopence per ton in the cost of production, an outcry arose, and the part in which the increase occurred was promptly abandoned. Whole districts were thus deserted, with the result that the entire area was not, as it should have been, completely and comprehensively worked. The practice followed seems, in short, to have been that of picking out plums and plums only : all difficulties which presented anything like serious obstacles were resolutely avoided.

This point was made clear and emphasised in Mr. Nixon's exhaustive reports, and the result was that Lord Bute entertained seriously the idea of taking legal proceedings against the company ; but he abandoned the project upon representations made as to the detailed and lengthy survey which would require to be made before a distinct judgment could be reached upon the question whether the increase in the cost of production had, in each case, been the true reason of the stoppage of the working. Moreover, looking back from the disadvantageous standpoint of 1897, it appears that evidence would necessarily have been difficult to obtain. Much of Mr. Nixon's reports was made upon surveys made ; much also was based upon answers to inquiries made by

him. The evidence was quite sufficient as the foundation of a report upon a matter of business. It could be relied upon by Lord Bute and his advisers, who knew that Mr. Nixon was not at all the kind of man who was likely to be deceived. But a court of law very properly requires the application of tests more strict than those which are applied in everyday life, and the projected litigation was abandoned.

Such was the opening incident of the business life of Mr. Nixon in his first sojourn in South Wales, during which he lived in hotels at Dowlais and Merthyr, and finally in lodgings at Dowlais. The noteworthy points during that period are the independence and courage shown by him on the occasion of his interview with Mr. Crawshay Bailey, and the quickness of insight which led him to perceive at a glance, almost, the disastrous wastefulness of the methods then in use for winning Welsh steam coal. He was soon to leave South Wales without, so far as appearances went, any prospect of returning there; but before we follow him in his wanderings, it is pleasant to pause over one little incident, having no connection with the thread of his life at the time, in which his habit of intelligent observation was strikingly illustrated, and from

which, combined with a later incident on board a Thames steamer, his great fortune may be said to have originated.

He was standing one day during his nine months of work at Dowlais near the engine at Pen-y-darren pit, in company with Mr. Gray of Garesfield. The cast-iron boiler of the engine was working at high pressure, a matter which in itself struck him as remarkable. Just then the stoker had occasion to open the furnace door and to throw coal upon the fire, and Mr. Nixon watched him. Never had Mr. Nixon seen coal used that produced so intense a heat, and he immediately called Mr. Gray's attention to the circumstances.

"Look there," he cried, "what great heat, and no smoke from it either! It is much better coal than we have in the North of England."

Mr. Gray asked him why he held that view.

"Why, it gives out no smoke, and we have no coal in England that produces so intense a heat."

Nor was Mr. Nixon content to rest upon his knowledge of the plain fact. He at once addressed himself to the stoker, asking whether he found difficulty in maintaining steam, and

whether, as appeared to be natural from the intensity of the heat, the fuel burned away very rapidly ; and the answer came at once—

“No ; it lasts much longer than any other steam coal.”

“Does it give off much scoria or clinker ?”

“No ; very little clinker, except when I throw on small coal.”

“How long can you go on without clearing the fire out ?”

“All day, except when I am short of large coal, and have to use small. Then I have to clear out the fire oftener.”

Again, Mr. Nixon expressed to Mr. Gray his strong opinion of the valuable qualities of this, to him, novel fuel. But a few months had passed since he had left Newcastle ; yet, at a glance, he perceived the truth that in evaporative power, in which the value of steam coal consists, the South Wales product was infinitely superior to that of his native county, and that glance was to be the foundation of a great fortune. Year after year in later days, in France and in England, when he was middle-aged and when he was very old, his mind recurred to the scene at Pen-y-darren pit, and the memory of the dazzling glare from the glowing furnace, when the door was thrown open,

recurred to him. Of a surety he was not one of those of whom it is written, "Eyes have they, and see not." His eyes were ever watching, his brain was always working over that which he had seen.

CHAPTER IV

FIRST FRENCH EXPERIENCE

IT is probable that, when Mr. Nixon had finished his work at Dowlais, he considered that he had done with South Wales, and that there were no immediate prospects of employment for him there. Certainly he can have had no idea of the effect which had been produced on the mind not only of Mr. Gray, but also of Lord Bute himself, by the perusal of the complete and masterly report in which he had described and criticised the underground workings at Dowlais. This may be assumed, since Mr. Nixon was always as shrewd in matters of business as he was keen in the faculty of observation. He had made a very good start in South Wales; he had satisfied himself, as we have seen, of the great value of the produce of the South Wales coal-field. If he had thought that there was any hope of a position in the service of Lord Bute, it is morally certain that he would not have shown any alacrity in seeking work elsewhere, or in giving favourable consideration to offers of employment from

other quarters. As things happened, the effect of the report upon Lord Bute's mind was to convince him that Mr. Nixon was a man of such capacity as to be worthy of a position of higher trust than he had hitherto occupied, and Mr. Gray was instructed to direct Mr. Beaumont to offer to him the position of Lord Bute's mining-engineer in Wales. But Mr. Nixon and his friends had been active in the meanwhile, and, when the offer came, it was not in his power to accept it. Hence came it that Lord Bute lost the opportunity of securing the services of a very remarkable man, and that Mr. Nixon, who felt no doubt that the mere offer of so responsible a position to a man of his years was the highest compliment, left South Wales to fulfil his destiny far away and amongst a strange people.

His departure came about on this wise. Very shortly after the work at Dowlais was accomplished, and when he had nothing definite to do, he received a letter from Mr. Tom John Taylor, who was then recognised as one of the highest mining authorities in the north of England, in which mention was made of the possibility of his obtaining the post of mining-engineer to an English company interested in a colliery and ironworks in France. A meeting between him

and Mr. Taylor was arranged in London. Mr. Taylor introduced him to the directors, who, after putting many questions to him, and being satisfied that he was amply competent to perform the duties which would be required of him, concluded the interview by offering to him the management of their works in France at a salary of £500 a year. That, it will be observed, was more than three times as much as he had been receiving; and, although it was clear that the whole of his time must be devoted to the service of the company, and that he must take up his residence permanently in France, it might have been thought that he would seize the opportunity with alacrity. But he took time to consider matters. He had burned his boats behind him when he migrated from the banks of the Tyne to those of the Taff. He may have felt natural hesitation before beginning life again in an entirely new environment in a strange country, of which the very language was unknown to him; or he may have had a suspicion that it would be prudent to inquire into the stability of the company and its prospects before pledging himself irrevocably. If he felt this suspicion it was, as subsequent events proved in a very plain fashion, entirely justifiable. Careful consultation with

Mr. Taylor, however, ended in a decision that it would be wise to accept the appointment ; and he called upon the chairman of the company next day, formally pledged himself to the service of the directors, and promised to sail for France as soon as possible.

Before leaving England he went down to Llandaff to see Mr. Beaumont, and to acquaint him with the change which had taken place in his position. A short time before he had been without a place and without a salary. When he called upon Beaumont he had an appointment and an income which for a man of his position, in those times, might certainly be reckoned handsome ; and now he was to learn from Mr. Beaumont that, if he had bided his time, he might have occupied at once high position in the employment of Lord Bute. That employment, indeed, was offered to him there and then ; but it was out of his power, even if it had not been contrary to his disposition, to recede from his pledge. John Nixon might drive a keen bargain ; indeed, he drove many such in after life, as every man of business must ; but he was far from being the man to break an engagement.

So, after one more interview with the directors in London, Mr. Nixon went by steamer to Bou-

logne, and then entered upon the long pilgrimage—for travelling was no affair of express trains in those days—to his destination in the west of France. First he travelled by *diligence* from Boulogne to Paris, and there spent two days, which must have been full of strangeness to his untravelled mind. From the Dowlais of early Victorian days to the Paris of Louis Philippe was as great a change as may be conceived. But Mr. Nixon's heart was set upon his work, and Paris could not keep him away for more than forty-eight hours from his long journey of two days and a half by *diligence* to Nantes.

So far he had been on the beaten track of tourists, and the sight of an English face attracted no notice on the part of the country folk who, since the end of the Napoleonic wars, had become familiar with travellers from across the Channel. But in the course of the weary and monotonous journey across the central plain of France matters wore a new appearance. The route by road lay then, as the route by rail runs now, through league after league of level country, fertile and well-tilled indeed, but unbroken in outline. To one travelling by train now, the monotony of the scenery, save when here and there the line runs within eyeshot of the magnificent Loire,

is wearisome and tedious ; and, rich as the land is, the signs of man or of human habitation are few and far between. The country folk are massed here and there in villages ; they were massed in much the same way then. This was no country frequented by curious tourists ; it was well outside the limits of the Grand Tour, and the villagers, to whom any kind of excitement was novel, were encouraged by the conductor of the *diligence* to treat Mr. Nixon as a raree-show. At each halt the conductor would walk proudly up to Mr. Nixon, with all the airs of a man having some strange novelty to exhibit, and would point to his mouth, crying out loud "Anglais, Anglais." The interest excited was analogous to that which Livingstone roused in wild Africa. Of this process it is related that Mr. Nixon regarded it as an innocent diversion which caused him much amusement ; upon which it can only be said that Mr. Nixon must have been then, as to the end, a man of good-humoured disposition, for in the case of most of us the jest, often repeated, would have palled, and some of us might have failed to see the fun of it at any time. If wit there was, it consisted in the indication of the mouth as the true point of distinction between men of different race and tongue.

Arrived at Nantes, the great port which was to be the scene of interesting episodes in his later career, Mr. Nixon found that his journey was by no means over, and that he must transfer himself and his baggage to a steamer, which would take him to Nort, from which Languin, his ultimate destination, was but three miles distant. The steamer proceeded by the river Erdre, which, being part of the Napoleonic Canal from Nantes to Brest, was rendered navigable between Nantes and Nort by virtue of a twelve-feet dam at Nantes. The scene of Mr. Nixon's operations lay, in short, as nearly as might be in the centre of what is now the department of Loire-Inférieure, and in a remote part of France, which is, even in these days, little known to Englishmen.

The circumstances in which Mr. Nixon found himself were the reverse of encouraging, and the more he looked into matters the greater was the call upon his reserve stock of courage. At first, indeed, he had no means of forming an opinion save through his eyes, which showed him that the only road by which products could be transported to the canalised river, three miles off, at Nort, was infamously bad. Of French he knew no more than the few words and phrases which he had been able to acquire

during his journey, and these few words, spoken probably with a Durham accent, were not likely to be of much help to him in discussing the technicalities of mining. Of English no person in the place had any knowledge, for the resident mining-engineer happened to be away. Nor, when the mining-engineer came back in a couple of days, were matters much improved. He could speak English, but he was not likely to be particularly well disposed towards the man who was coming in to a place which he had occupied for some time. From him Mr. Nixon was not able to obtain any substantial amount of useful information; but he obtained enough to enable him to start upon his duties, and that stage once reached, John Nixon's sharp wits and trained skill would do the rest.

The concern was large. The concession granted to the company covered an area of seven miles by three-quarters of a mile, with an extension including the outcrop seams. The veins of coal lay almost vertically. What Mr. Nixon had to decide was not whether coal and iron lay within the boundaries of the concession, for that was plain, but whether the enterprise could be worked profitably, and if so, how? On that vital point he was himself, so far, in

the dark; and the company in England, who had found the money, were apparently in much the same stage of knowledge or of ignorance. He accordingly began at the beginning, and spent the first three weeks of his stay in Languin in what might be called preliminary work, which was imperative upon him, since it had not been done before. First he had a plan made of all the pits that had been sunk in the property, ascertaining as far as possible the extent of the workings from each opening. An account was also made up of the quantity of coal which had been raised during the preceding seven or eight years. It then appeared that, whereas but three pits—two with steam-pumps and winding-engines, and one with a horse-whim—were in existence, only three-quarters of a mile of the great area of the concession had been proved. Underground the aspect of affairs was no better. In the company of the engineer and the overman, Mr. Nixon inspected all the accessible workings, taking sections at every ten yards of the seams, of which three, the north, south, and centre, were said to exist. In addition, he asked questions of all who were likely to be able to give him any information of value.

The results of the survey were not merely

disappointing, they were absolutely disheartening, and compelled Mr. Nixon to the conclusion that the enterprise, so far as it had been prosecuted up to that time, was utterly hopeless. The sections were "the most horrible he had ever seen." In some places the coal was forty feet thick, only to be followed by a "leader" for hundreds of yards. The cost of working was enormous; the coal produced was enough to keep the colliery engines going and no more. And this was the enterprise for the sake of which Mr. Nixon had relinquished the certainty of an important appointment under Lord Bute, in a district of which he had clearly recognised the potential, nay, the certain wealth in the immediate future! It needs no great faculty of imagination to picture the bitterness of the young man's disappointment upon finding that the enterprise in which, for the moment, his career was bound up, could be described by no other terms than hopeless and desperate.

In these circumstances it is not too much to say that many men would have hesitated to follow the straightforward and honest course. It would have been a simple matter to postpone the task of writing a report to the directors, to try other parts of the property within the con-

cession, to make light of apparent difficulties, to hold out roseate hopes for the future, and to continue as long as possible in the enjoyment of a handsome salary. But the subject of this memoir was not, to use an American expression, "that kind of man." His plain duty was to warn the directors that in his judgment they were expending the money of the shareholders to no purpose in prosecuting a hopeless enterprise ; that to go to further cost would simply amount to throwing good money after bad. But clear as his duty was, the probable consequences of fulfilling it were not less manifest. The young man who, three weeks after entering upon the examination of a mining venture in which large sums of money had been sunk, should condemn the whole thing and declare the cherished scheme to be such that it could not succeed, could not fail to perceive that, though honesty might be the best policy in the long run, his frankness would certainly place his situation in jeopardy. But John Nixon did not shrink from the ordeal. While, no doubt, he expected nothing less than abrupt dismissal as the result, he made his report in plain terms to the directors. He stated that he had never seen or heard of a coal-field of so desperate a character as that of Languin ;

he forwarded plans of the different seams, and the sections he had taken at every ten yards. To this gloomy report he added a strong expression of opinion that he had felt it to be his unpleasant duty to lay the account of the aspect of affairs plainly before the directors, in order that, before expending more money upon the venture, they might consider the position in a business-like spirit. But it is clear that he felt it to be likely that the directors, knowing his youth and the short duration of his experience, might distrust his report, and might decline to recognise the authority and the weight of his observations. He therefore added a recommendation that the directors should send over another engineer to investigate the workings in the light of his report, and to advise the company as to the course to be pursued in a situation which was certainly critical.

Having thus taken the straightforward course which honour indicated in preference to that which the considerations of selfish expediency seemed to dictate, Mr. Nixon waited, with what anxiety may easily be imagined, for the answer of the directors. The directors, in their turn, were so much astonished and so much chagrined by the tone of the report, that they despatched a

letter to him bidding him proceed to London at once, and he, as he shook the scanty coal-dust of Languin from his feet, cannot have failed to think that he was in all probability doing so for the last time: for he had condemned without reserve the enterprise in which his employers had pledged themselves to the hilt; and, although he had written in all sincerity, he knew enough of human nature to be aware that the harbinger of evil tidings is, more often than not, compelled to play the part of the scapegoat. He expected, no doubt, a stormy interview with the directors; and his expectations were fulfilled. The directors confronted him with a highly favourable report of French authorship, upon which, in all human probability, they had relied when they embarked upon their unhappy enterprise. They observed, with perfect truth, that the roseate descriptions and anticipations of the French engineer were in diametrical opposition to the report which Mr. Nixon had deemed it necessary to write. They said, in so many words, that they were astonished that Mr. Nixon should have adopted in his report so uncompromising and so disappointing a tone.

Having regard to the bitterness of their chagrin, their anger was to be excused. But they were

face to face with a man whom it was impossible to intimidate or to drive from the right course. In his cool North Country tone he observed that he had seen the French report, that he had studied it, that the terms and the spirit of it were familiar to him. There was nothing the matter with the French report save that the writer of it had omitted the root of the whole matter, and had neglected to observe the risky and eccentric nature of the seams. Again he recommended them to send over an independent engineer, accompanied by the Chairman of the Board of Directors, so that the precise truth of his report might be established, for on that report he had staked his reputation as a mining-engineer. Then, for the first time, the directors showed that spirit of the company promoter, the shark of commerce, which was far less strongly developed then than it is now. So strong, indeed, is it now, so numerous are the bottomless pits contrived in the City by men who care not how much is lost of the money sunk without a chance of any return, so long as they are able to filch some as it falls, as to have given rise recently to a cynical observation. A frequenter of the Stock Exchange remarked, not many months ago, to a student of human nature and of social phenomena, that

things were in a desperate state in the City. The answer came sharply, "Then there is a chance for honest men outside." A corrupt institution is the Stock Exchange, though its members be honest enough. It produces absolutely nothing; it consumes and takes away a great deal. Bubble schemes are inflated there day after day: they absorb the savings of the ignorant; their promoters give ceremonial banquets to celebrate the triumph of this or that gaseous fraud; palaces are built in the West End, and poverty walks into many a quiet country home. From the promotion of such schemes, or from the necessities which come in the promotion of them, arise reports from mining-engineers and others which delude the innocent, while the man of the world knows them to be the customary tricks of the trade, and from reliance upon these false statements come widespread ruin, impoverished families, and all the squalid paraphernalia of misery.

Something, surely, of the conscienceless spirit of the schemers of the City was in the minds of those directors, who had the hardihood to complain that the man whom they had sent out to report to them upon the position and prospects of their enterprise had, without preliminary consulta

tion with them, furnished them with a true and faithful account of their property, in which no defects were extenuated, in which no damning facts were omitted "through affection, fear, or the hope of reward." They reproached him on the ground that the report was so injurious that "it would prevent their shares from getting into the market." In truth the report was essentially private; it was addressed to them and not to the public; they might, had they been so disposed, have destroyed it as soon as it was received; but they felt that if, with such a report in the background, they attempted successfully to cajole the public out of more money, they might be placed in a very uncomfortable position when the inevitable crash came. The law affecting joint-stock companies was a large-meshed net in those days. Even now, when the mesh is narrower, the big fishes commonly succeed in breaking through it altogether; but there was then, as there is now, a law which makes the obtaining of money on false pretences a serious crime; and to have issued more shares, to have obtained more money, without disclosing Mr. Nixon's report, would have been a perilous business, and dangerous to personal liberty.

Mr. Nixon's prompt and significant answer

contains the essential distinction between the men of action in industry, who are a benefit to society, and the men of financial artifice, who are the birds of prey of business. "He had imagined," he said, "that the question was one of working to a profit, and not one of selling shares in the market." If the City generally could be persuaded to approach new enterprises in Mr. Nixon's spirit, the world at large would be at least as prosperous as it is, and infinitely happier than it seems to be. The bitter recriminations which followed upon this dry and pregnant observation must be left to the imagination; the record of them has perished and gone out of mind. It is enough to be able to state that in the end the directors were so clearly convinced against their will by the logic of the report, that they actually invited its author to suggest the name of a person to make the investigation which he had declared to be imperative. He very properly declined to do anything of the kind. The man required was an independent man—a person in whom the directors had confidence—not a man chosen by Nixon. He would say no more than that, no matter who might be sent, one of the board ought to accompany him. Then

the directors suggested Mr. Tom John Taylor, the very man who had introduced Mr. Nixon to them originally. Mr. Nixon said that, as they expressed their confidence in Mr. Taylor's ability and judgment—and the serious elements in the situation called for cool judgment above all things—no better man could be chosen, and it was decided that, accompanied by Mr. Taylor and the chairman of the company, he should return to France.

Mr. Taylor was already familiar with the situation. He had been Mr. Nixon's patron and friend, and, when the latter sent his report to the directors, he had deemed it an act of necessary courtesy to forward a copy simultaneously to the man who had been mainly instrumental in obtaining his appointment for him. And Mr. Taylor, although he was aware that the directors were disposed to make as light as might be of the report, and to explain it away on the ground that Nixon had despaired too soon and was weary of service in their employment, had frankly expressed his opinion that the right course had been pursued.

The official examination of the property proceeded, and Mr. Nixon, anxious to exhibit the virtues of the property as well as its weakness,

conducted the chairman and Mr. Taylor first to the ironstone deposits. They were excellent. They lay in little hillocks, which, upon being driven into, proved to be of capital quality, yielding forty per cent. of iron (a large percentage in those days when the riches of Bilbao were undiscovered) at the moderate cost of fifteenpence per ton. At this point all went merry as a marriage bell, and the chairman, with reviving spirits, rallied Mr. Nixon, asking whether there was anything in Wales to equal what had been seen. There was not, said Mr. Nixon in effect, any ironstone deposit in Wales, or, for that matter, in England, to equal it; but, in the conditions of trade in those days, raw ironstone was not a marketable article, and the vital question, whether the work of smelting could be carried on to a profit on the spot, remained unsolved. To this the chairman very pertinently replied that the concession of the extensive coal property had been obtained mainly with a view to obtain coal for smelting purposes. But Mr. Nixon, who spoke with more knowledge than the chairman, in that he had examined personally the accessible portions of the coal-field, whereas the chairman had not, appears to have pointed out that an intention

of obtaining coal for smelting purposes was not quite the same thing as that intention realised. No doubt, as he had already proved, coke of the best quality could be made out of the coal that was produced at Languin ; but that was not the beginning and the end of the whole matter. There were grave doubts as to the amount of coal available. The property was in large measure untried ; but such coal as had been produced had been so costly in the winning, owing to the chaotic distribution of the seams, that it was chimerical to hope to carry on at a profit the joint enterprise of raising the coal and smelting the iron. The iron might be cheap, but the cost of producing the coal ate up all the profit which might come from the cheapness of the iron, and a little more besides. It had become a grave question where any warrant could be found for going to the great expense which would be necessary to the development of the enterprise.

At this point it became plain that the iron of Mr. Nixon's report had bitten into the chairman's soul, and that, for the moment at any rate, he was convinced that the coal-field, which had been acquired for smelting purposes, could not be applied in that way with a prospect of obtaining

that profit which is the life-blood of trade. He made the suggestion that, failing a supply from the Languin concession, coal might be brought to Languin from elsewhere. That suggestion, itself an implied confession that half the value of the concession was imaginary, must have produced a strange impression on the minds of his companions. It must, indeed, have seemed wild and desperate, having regard to the conditions of the iron trade of those days. In these times, when rich iron ore is brought by sea from Spain to meet the smelting coal at Cardiff (which we may safely assume to be the most effectual plan, since it is followed by the keenest men of business in the world), there would be nothing startling in the proposal that the process should be reversed, the coal being taken out to meet the ore. But then, when coal and iron were being worked together in South Wales, at Dowlais for example, the suggestion that the coal should be brought to the iron from a distance was novel, and almost absurd; for, good as was the quality of the Languin ironstone, it was not so exceptionally superior to anything known in England as to promise a profit after the greatly increased cost of production had been defrayed. At any rate, the suggestion did not strike Mr. Nixon as an

inspiration ; in fact, it merely evoked from him the remark that, so far as he knew, coal could be obtained from England only, and that to obtain it thence would tend to intensify rather than to solve the problem of high cost. It must be remembered, of course, that the state of development of the English and Welsh coal-fields was not at that time comparable to its present state, and that, as Mr. Nixon found in later days, it was in those days difficult to secure the fulfilment of large orders for Welsh coal.

The chairman therefore found himself face to face with one of those crises which are among the most trying, even when the person confronted with them has his own interests alone to consider. Men are always reluctant to recognise unpleasant facts, to confess that an enterprise on which many hopes had been founded is really hopeless, to decide that the time has come for reckoning money spent as money lost and for cutting their losses. But the chairman's position was worse than that of a mere individual. He had to reflect that the concession had been paid for, that the company had been formed, that a large sum of money had been subscribed from many quarters. If the enterprise was to be given up, there were uncomfortable facts to be faced. He could not fail to

picture to himself meetings of infuriated and disappointed shareholders, violent reproaches, fierce accusations, and all the familiar surroundings of the burial of a venture which had failed in spite of fair promises. It was a gloomy prospect. Few men in this world, even in the City, are as callous as they seem to be ; and it may well be that in the sunshine which has the semblance of gilding every hour in the successful company promoter's life, he himself can always feel the chilling shadow of that little cloud, no bigger than a man's hand, which rises unmarked by others. To postpone the evil day is sometimes possible. True it is that such postponement means the accumulation of trouble and the exacerbation of reproaches in the end ; but it commonly happens that the temptation to escape, up to the last moment, from the inevitable necessity of confessing to failure, is too strong for human nature.

It was too strong in this case. That the chairman fully realised the desperate character of the situation had been plain from his suggestion that coal should be brought over sea to the ironstone which had been bought in the belief that it rested upon coal strata amply sufficient for smelting purposes. But the company had gone far with the scheme ; the directors were not

prepared to face the bitterness of retreat ; they were determined, the chairman told Mr. Nixon, to go on with the business. It is no mean proof of the impression which Mr. Nixon's strong character and marked ability had made upon his employers, that he, the man who had frankly informed them that in his judgment the farther they went the worse they would fare, was still permitted and encouraged to advise with regard to the system which must be followed if the forlorn enterprise was to have the smallest chance of success. He had already outlined this system in his report. Trifling operations would, he averred, be quite useless and futile. To secure the coal necessary for smelting purposes alone many pits would have to be sunk ; to provide engines for these pits would involve great expense ; and, unless the whole thing were done on a large scale, and large quantities of coal were worked, the cost of production would be enormous.

With these weighty words ringing in their ears, the chairman and Mr. Taylor, accompanied by Mr. Nixon, continued their examination of the property and visited all the openings which existed. They considered the whole matter with anxious care, and again the chairman, who said that he was confident that his colleagues on the Board of

Directors would follow his lead, said that he was determined to go on with the concern. Again Mr. Nixon, allowing no regard for his private interests to divert him from the line of honour, threw cold water upon the scheme, and urged that, at any rate, the projected iron-works should not be constructed until they had ascertained by making new openings that an adequate supply of coal to feed them would be forthcoming.

Then, between Mr. Nixon and Mr. Taylor, the conversation turned upon the prospects of the coal supply, and in discussing that question the two men occupied very different positions. Mr. Taylor had been sent out by the company to inspect the property in the first instance, but had relied upon the report supplied to him by the company, and had not gone underground to test for himself the statements in the report or the accuracy of the manager's estimates. Mr. Taylor's report, which presumably had followed upon his alleged inspection, was really nothing more than a repetition of hearsay evidence. He was a mining-engineer of great reputation ; his name may have given weight to the report ; but the report really deserved no more weight than the original French report upon which it was founded. Mr. Nixon, on the other hand, thorough in all

things, and never sparing himself in the matter of personal exertion, had been underground personally, and had examined the whole of the workings elaborately, devoting to the process all his skill as a mining-engineer. And Mr. Taylor knew Mr. Nixon's straightforward character. When, therefore, Mr. Nixon stated that, after making out his sections, he estimated the average of the three seams taken together as two feet six inches only, Mr. Taylor, albeit much surprised, indeed almost shocked—for his reflections cannot have been comfortable—accepted the statement as authoritative. What, then, in his judgment was the course to be pursued? What would the company be well advised to do? He at first hesitated to express an opinion, but upon being pressed to speak out, he said that there was no room for two views upon the matter. So the warning knell of the cherished enterprise at Languin tolled once more.

Still it was plain that the chairman, unmoved by the change even in Mr. Taylor's attitude, was determined to proceed; yet Mr. Nixon displayed no strong desire to keep his situation. On the contrary, while he expressed himself willing to devote his best energies to the work of exploitation, if the directors determined that it

was best that he should do so, he accompanied his consent to continue in their employment by strict conditions. He insisted that he should be supported by distinct and express authority; he stipulated that the whole of his responsibility for the large sum of money, £30,000, which was at stake, should lie upon the shoulders of the directors; he declared that he would not proceed except upon the clear understanding that the directors should state their approval of the course which he had pursued. In short, he adopted a courageous and independent attitude, which became him well, although its unflinching boldness may have surprised the chairman not a little.

Mr. Nixon had his reward. Before starting upon his return journey to England the chairman candidly admitted that, although he had come to France reluctant to be convinced, he was constrained to confess that Mr. Nixon's conduct had been upright and straightforward from beginning to end of the business. Upon this assurance of confidence, Mr. Nixon was satisfied to carry on the work, and it was arranged at once that a powerful pumping-engine, which was obtained eventually in Cornwall, should be sent out from England. Even with this, he pointed out, there would be special

difficulties, owing to the peculiarities of the unhappy plot of land with which he had to deal. To place the engine upon the coal formation was out of the question; for the coal formation was in a perpetual state of "creep," and "squeezing" began as soon as pits were opened—in other words, the superincumbent strata, deprived of a part of their original support, pressed with additional weight upon such support as was left, and squeezed upwards the softer strata below. An excellent description of this process will be found in Sir Charles Lyell's "Elements of Geology." Hence it would be necessary to erect the engine on the metamorphic rocks of crystalline texture which formed the boundary of the coal strata.

In due time the engine, with seventy-inch cylinder and ten-feet stroke, came from Cornwall, and a foundation having been sunk, was placed on the metamorphic rock. Mr. Nixon was then in a position to try the property for coal in every conceivable way; nor did he delay so to do. At first things looked better than he had dared to anticipate, for, after sinking to the depth of 150 feet, the depth of the previous workings, he drove across the veins, and at one point came across what appeared to be a continuous six-foot

seam, which, if it had but been regular, would have gone far to establish the prosperity of the colliery ; but, after thirty yards had been worked in one direction and ten yards in the other, the six-foot seam disappeared, and the dreams of prosperity vanished, not indeed into thin air, but into worthless rock. Still Mr. Nixon persevered, driving on to the other seams, but no valuable discovery was made. Then he went 150 feet deeper, and repeated the operations which he had carried out in the upper cross cut, but the results were as disappointing as before. At that point manifestly coal could not be worked profitably. Three hundred yards away from the pumping-pit a fresh trial was made ; and again, at another spot 300 yards to the eastward, he sunk to the depth of 300 feet. Here some kind of tradition promised forty feet of coal, but trial proved not only that the forty feet did not exist, but also that the earth concealed no workable treasures in that part. This tract of the concession was obviously barren, and further sinking in it could mean nothing but futile expenditure. Still far away to the westward was an old pit, with pumping- and winding-engine, which had been exploited before the company had acquired the property. There, with additional sinking,

there might be hope ; but, after diving another 150 feet into the bowels of the earth, the dream was dispelled ; and yet another boring, 300 yards away to the westward of that last mentioned, was equally dispiriting. The coal was a mere mockery ; that which was won sufficed to keep the engines going and no more. Before he had finished, in a word, Mr. Nixon had tried every part of that luckless property without obtaining any other satisfaction than that of proving that his original predictions and his first estimate of the prospects of the Languin Coal and Iron Works had been absolutely and deplorably correct.

It needs hardly to be said that, as each costly investigation ended in failure, the directors in London were kept fully and regularly informed of the progress, or no progress, that was being made. But their principle was then embodied in the familiar saying, "It's dogged as does it ;" and that principle, when men are risking their own money only, compels admiration ; but when the matter is one of spending the money of ignorant shareholders also, the feeling of admiration is naturally modified ; and the time came when Mr. Nixon could endure his position no longer. As the knowledge that all their labour is in vain adds to the weary despair with which

imprisoned convicts turn the useless crank or tread the mill which grinds nothing, so it was intolerable to a man of vigorous energy and keen insight in mining affairs to be compelled to prosecute, year after year, experiments of the futility of which he was thoroughly convinced. So, while the directors were to all appearances prepared to go on for ever, Mr. Nixon resolved to retire from a position which had become unbearable to him, and he accordingly wrote to his employers stating that, inasmuch as his term of engagement had almost expired, he would be glad to be relieved of his duties, and that he would be glad to see another man in his place. At the same time he observed that further prosecution of the enterprise would involve the expenditure of a large sum of money, not only without any prospect of success, but with an absolute certainty of failure.

The answer of the directors was that, since they had almost come to the end of their resources, they would send out no new mining-engineer; but, even at this point they could not bring themselves to confess that Languin was a failure, a bottomless pit into which money might be poured for ever, never to reappear in any form. That would have undoubtedly been the business-like course to

pursue ; but instead of following it they harked back to the chairman's desperate idea (which had been discussed at Languin between him and Mr. Taylor and Mr. Nixon) of importing coal to their precious colliery to smelt the ironstone which had been purchased in the erroneous belief that the necessary fuel was accessible and on the spot. So, as the last chapter of the history of his connection with this hapless company, Mr. Nixon journeyed to South Wales again. There, both at Ynysgedwin and at Ystalyfera, he found iron, and that of capital quality, being produced by the use of anthracite ; but that fact was far from solving the problem of Languin. The anthracite could be shipped to Nantes of course, and from Nantes up the Erdre and Napoleonic Canal to a point within three miles of the works. It would certainly have served to transmute the rich ironstone into serviceable iron. But the iron thus produced would clearly have cost more than it could be hoped to fetch in the market, and there was no more use in smelting iron on those terms then than there is now in manufacturing diamonds, chemically and mineralogically genuine, at a cost greater than that of the natural article.

It is interesting, it is indeed almost touching, to know that the company, although Mr. Nixon

severed his connection with it, did not even then desist from its operations, but continued to erect iron furnaces, and did not finally close its works until the Revolution. But young as Mr. Nixon still was, it was high time for him to dissociate himself from a concern of which the gloomy prospects were illumined by no ray of hope. The mental and moral discipline resulting from long and weary efforts to achieve success where it was impossible had no doubt its value ; but he had suffered that discipline long enough ; the hour had come for him to venture out into that greater world of commerce in which, for good or for evil, he must rely upon his own judgment and stake his own money upon it. Henceforward he was to be no man's servant ; he was to obey no man's directions ; he was to work out his own destiny and to follow out his own ideas. How great was the success with which he thought and formed ideas and followed them out it is our pleasant duty to record.

CHAPTER V

SOUTH WALES AGAIN

WE have seen that business of a merely episodic character, the necessity in fact of discovering whether coal could be transported from South Wales to Languin and used profitably there, had caused Mr. Nixon to go straight to South Wales from Brittany; and in South Wales he remained for a time, possibly because he had nothing better to do, and was as likely to obtain an outlet for his energies in Glamorganshire as anywhere else; but more probably, in the writer's opinion, because his shrewd foresight told him that in the great industrial development of Great Britain South Wales was destined to take a foremost place. Looking backward, it is easy to think that the far-seeing and ambitious man who had perceived, as Mr. Nixon had, the superlative qualities of Welsh steam coal—who had been nurtured, as Mr. Nixon had been, in the district in which the native genius of locomotion by steam had its origin—must have foreseen the future of South Wales, and the immense de-

velopment of which it was capable. The true view probably lies midway, that is to say, in the theory that Mr. Nixon saw the possibilities of considerable development in South Wales, that he had connections there with men who had shown their confidence in him, that there was no particular call for him in the North Country—land of “the oak and the ash and the bonny ivy tree”—and that he thought there was sure to be an opening in South Wales for him. As a matter of fact the opening came through South Wales, but not, at the outset, in South Wales; and the foundation of his fortunes was to be laid in the same part of France which he had formerly found sterile of results, and fruitful in multitudinous disappointments.

But it was in London, when he was navigating the foul waters of the Thames—it is the almost incredible fact that they were worse then than they are now—that Mr. Nixon’s inspiration seized him. He was there upon some casual purpose of business which may have seemed important then, but which in itself had no material relevance to his life’s story, and he happened to go on board a Thames steamer. A little time before these steamers had used coke for fuel; but, so early as 1829, George

Stephenson had introduced the multitubular boiler into his famous locomotive the "Rocket"—still preserved at Newcastle—together with the steam blast-pipe. The invention was not entirely successful at the outset, for it was hardly possible to obtain machinery of sufficiently good construction to fulfil Stephenson's ideas until the Liverpool and Manchester Railway was in progress; but in due time the machine manufacturers advanced, and when Mr. Nixon paid this particular visit to London, tubular boilers had not long been introduced into steamboats.

With tubular boilers, coke as a locomotive fuel went out of use by reason of the tremendous blast that was required for its effectual use, and of the small amount of steam, and consequent power, which it produced. Moreover, the outcry against smoke was then, as indeed it is now, loud, and attention was largely concentrated upon the necessity of discovering smoke-consuming apparatus. It was on this fateful steamer that Mr. Nixon—well aware, no doubt, of the foregoing facts, knowing, doubtless, that an eminent engineer (Mr. C. Rye Williams) was at that time engaged in special experiments with a view to discover smoke-consuming apparatus, and that a fortune awaited the fortunate discoverer or

inventor—was the opportune witness of a phenomenon which must have appeared under the eyes of countless men before. It was apparently no great matter. The stoker threw coal on to the fire; no volume of black smoke was vomited forth by the funnel. Now, Mr. Nixon, as a North Countryman who well knew the regularity with which the miners of his native county traded in coal with London, naturally supposed that the coal in use on a Thames steamer would surely have come from Newcastle. He also knew enough of Newcastle coal to be convinced that, unless it were coaxed with infinite tenderness and subjected to special arrangements for complete combustion, that fuel would certainly not conduct itself in this amiable and pleasing manner. Under ordinary conditions it would belch forth a cloud of murky smoke. Thereupon Mr. Nixon, always keenly observant—just like the favourite terrier of his old age, who seemed always to be saying, “What is that?”—congratulated the captain, in an interrogatory tone, on the excellence of his smoke-consuming apparatus. The captain, who was probably no better than the captains of Thames steamers are at this day, answered bluntly that “there was no smoke in the coal.”

Now a fire without smoke was in those days quite as remarkable a thing as smoke without a fire, and the captain's reply served but to set Mr. Nixon's intelligent curiosity more awake than ever. At once he said that he would dearly like to be an eye-witness to the process of stoking, and the captain assented, on the terms that the usual half-crown should be paid for "footing." Mr. Nixon was willing to pay on the terms that he should be permitted to throw on some of the coal with his own hands, and, the captain not caring two straws who threw on the coal so long as he was not asked to do it himself, an agreement was reached, and Mr. Nixon went below.

Once in the stoke-hole, once face to face with the great lumps of coal with their queer crystallisation, which he had seen at Pen-y-darren, Mr. Nixon recognised at once that the coal which produced these excellent effects had never come from the bowels of the earth in the north of England, but was the same fuel as that which he had noticed, in the company of Mr. Gray of Garesfield many years before, in use to heat the engine at Pen-y-darren.

At once he began to cross-examine the stoker. Did he throw the coal on to the fire and afterwards push it back? No. Would he object to

Mr. Nixon's handling the shovel for a while? Not in the least. So Mr. Nixon took the shovel into his own hands, and thus subjecting the coal to the most crucial test, threw a quantity of the coal right back among the tubes. Still no smoke followed. Then Mr. Nixon, never satisfied until he had got to the bottom of things, continued his cross-examination.

"Do you get any coal that makes smoke?"

"Yes, we do. Newcastle coal is very bad for that, and chokes the tubes, and coke does not give enough heat without a heavy blast."

"Where does this coal come from?"

"We get it from Mr. Wood, and they call it 'Murther' (Merthyr) coal."

"How long have you been using it?"

"Nearly a year."

"Any complaints?"

"No."

"Much clinker?"

"No. I do not clean the fires once a turn."

"Have you any sort of objection to it?"

"Not a bit. It does not require any poking, and is very different to the Newcastle coal."

From this apparently casual conversation great consequences were to follow. Familiar with the conditions under which shipping and manufactur-

ing industry were being carried on at that time at Nantes, the great up-river port of western France, and well aware of the difficulties which were encountered in obtaining coal of decent quality there, Mr. Nixon perceived at once that the man who should succeed in introducing Welsh coal to the French market would have made a great commercial coup. Nor was he the man to neglect an opening of this kind when it presented itself to him. He went promptly to Mr. Wood to ask for a letter of introduction to the colliery owners or merchants from whom this wonderful coal was to be obtained. The answer given by Mr. Wood is interesting, in these days of development, as an illustration of the infancy of the coal trade. Mr. Wood showed no desire to extend his business, or to try fresh fields and pastures new. Coal, it appeared, was none too easy to obtain. Two boat-loads a day, which could easily be disposed of in London, was the most that he could get from South Wales, and even that was not always forthcoming. If Merthyr ran short of coal for its own use, then the vendors there gave the preference to their fellow-townsmen, and London had to do without it. From Mr. Wood, therefore, Mr. Nixon got no information, no aid, and no coal.

But it was ridiculous to attempt to conceal from

a keen-eyed man, such as Mr. Nixon was, the particular district or pit within a known district from which coal of a special character was sent to London. Not many days had passed before he was at Cardiff inquiring into the matter; and in a very short time he learned that a certain Mr. Marychurch had coal for sale, and him he visited. Mr. Marychurch in his turn stated that he had little coal to spare, since all he could get was sold in London; but he seems to have informed Mr. Nixon readily enough that his supplies, such as they were, came from the Graig pit, Waun-y-wyllt, at Merthyr, the property of Mrs. Thomas; and to the Graig Colliery Mr. Nixon betook himself accordingly, feeling no doubt, that a trade in which the demand far exceeded the supply, although the supply might easily be increased, was precisely the kind of trade which was to be sought out by an ambitious man. Nowadays the difficulty is to find the market. In those times the market had frequently to go hungry.

On arriving at the Graig Colliery, Mr. Nixon found himself in the midst of the idyllic period of the coal trade. Mrs. Thomas—she may be called the mother of the coal trade—was held to be carrying on a very good business. She sat in her office, a wooden hut near the pit's mouth, and

traded for cash, placing in a basket over her head the moneys which she received for her coal. Her cleverness, her witty tongue, her pleasant manner were known to all the countryside. At her pit's mouth it may be said that the poetry of the Arcadian world joined hands with the prose of a busier time to come. "Laughing girls," like those who trod the wine-press of old (save that they were grimy with coal-dust), handled the coal, sorting it by hand and picking out the lumps, which were afterwards placed on boats, "as carefully as if each lump was an egg;" and Mrs. Thomas was then raising the amount, considerable in those days, of 150 tons by the day.

Mr. Nixon, however, got no encouragement from Mrs. Thomas. Asked if she would be prepared to produce more coal and to supply some to him, the old lady, perfectly contented with her business as it stood, made mention of the "appalling" quantity of coal she was even then extracting from the bowels of the earth. She added that, after supplying the wants of the town of Merthyr and its neighbourhood, she found a ready market with Mr. Marychurch for the entire surplus. Finally, she informed Mr. Nixon that she would not undertake to produce more coal, or to spare to him any coal at all. Nor was

the attitude which she adopted in the least degree narrow minded. We must not judge her by the standard of to-day. We must remember that, long after her days, gloomy speculations as to the future of the coal trade were commonly indulged in, and that many a man deemed to be wise in his generation prophesied that, within a very few years, the supply of coal would run out. The practically inexhaustible character of the South Wales coal-field was as yet unascertained.

For the moment, at any rate, the placid immovability of old Mrs. Thomas sufficed to check even the restless ambition of Mr. Nixon; and Mr. Nixon for a while turned his back upon South Wales, and went away to his native North Country. In his mind there was the germ of an idea which, albeit not developed by him then, was not wanting in practical power. He had condemned, after consideration, the suggestion of taking coal to Languin for the purpose of smelting the ironstone which undoubtedly existed there. He had condemned this suggestion mainly because it could not be carried out without incurring the expense incident to considerable inland carriage of the coal to the point at which the available ironstone lay. But as the coal from the hills of Glamorganshire and Monmouthshire

is now carried to meet the iron ore from Bilbao at Cardiff, and the process of smelting is carried on within the limits of the Bute Docks, so Mr. Nixon conceived it to be possible that the fuel and the ore might be brought together and meet at Nantes, so that all inland carriage might be avoided. Moreover he was, as it seemed at the time, fortunate in coming into contact with a wealthy Frenchman who seemed to be likely to co-operate with him in his scheme; for this gentleman was the owner of a foundry at Nantes, to whom it appeared to be expedient to establish iron-works in connection with his foundry. He and Mr. Nixon came together. Learning from Mr. Nixon that anthracite was already in use in South Wales for foundry purposes, he asked for full and detailed information as to the cost of transporting the anthracite and of manufacturing the pig iron. Mr. Nixon, after consideration and after paying due regard to the fact that the production of pig iron in France was then encouraged by a heavy duty levied upon imported pig iron, expressed his opinion that the material could be produced at Nantes, under the favourable conditions which then existed, at the handsome profit of £1 per ton.

This estimate, given by a man who certainly had not been over-sanguine as to the prospects

of the designs with which he had been connected previously, evidently made a deep impression upon the foundry owner. Mr. Nixon was therefore asked whether he was willing to take a share in the enterprise which had thus been outlined, but he was compelled to reply that he could not do so, since he was not in possession of the necessary funds. But the Frenchman had seen the value of his adviser's judgment and energy, and he was prompt in pointing out that, money or no money, Mr. Nixon must be secured to take a principal part in the development of the scheme. Mr. Nixon, he said, knew more of the business than any other man. Mr. Nixon must be their engineer, and the money needed to start and carry out the works on a large scale must be found in England.

But John Nixon was never hasty. He never failed to see the disadvantages of every design, to recognise the dangers which must be encountered by the vessel of adventure before the harbour of prosperity could be reached. He insisted that the capital required would be very large. He pointed out how serious a matter it would be to build great iron-works, and then to run short of money before attaining the position in which they could work profitably. He suggested

that, in order to obtain a market, it would be necessary to cut down prices and to undersell competitors at the outset. But his French friend was persistent. Present in his mind was the fact, of which he was reminded afresh every time that he required a new supply of the raw material of his business, that the duty upon imported pig iron was prohibitive. Animated also by a species of municipal loyalty, he declared that if extensive iron-works could be established at the beautiful old town of Nantes, it would become the most important business centre of the west of France.

This French gentleman failed perhaps, like many others, to foresee the developments of modern commerce. Those who know Nantes now, who are familiar with the rushing stream of the Loire, too powerful to be cribbed, cabined, and confined, as the Clyde is, and too shallow to be navigated by the huge vessels of modern times, will probably agree that, ironworks or no ironworks, Nantes was destined to lose pride of place as a port, and to see distant St. Nazaire, at the mouth of the river, accommodate all the great shipping. But it may, none the less, be the case that the Frenchman's ambition was, having regard to the condition of commerce at that time, reasonable and well calculated. Be

that as it may, the French foundry owner was full of his scheme, and insisted that Mr. Nixon should make an estimate of the money which would be required to place the undertaking upon a sound basis. Mr. Nixon demurred, pointing out that, while he might claim to be an authority with regard to the iron-making part of the scheme, he really knew nothing about the foundry business. But the French gentleman had met and conversed with Mr. Nixon, had doubtless formed his own opinion of his powers, and he appears to have declared that he would have Mr. Nixon's estimate or none.

This French man of business seems hardly to have comprehended the breadth of the ideas and length of the ambition of the man with whom he had to deal. Mr. Nixon's estimate that £50,000 at the least would be required, and his declaration that, unless such a sum could be provided, he would have neither hand nor part in the scheme, are described as having "staggered him." Yet on that question, as on every other question of business, Mr. Nixon not only was wise in his calculations, but also was able to prove himself so to be. Certainly he was right in arguing that there was no use in starting the enterprise at all unless it could be

done on a large scale. No man who knows the iron industry will deny that the appliances required were costly then, though they are probably more costly now. Beyond question he was well advised in stating that it would be hopeless and futile to establish a new industry in a new place unless the appliances to be employed were to be of the most perfect quality and workmanship, so that competition might be defied.

In any case, also, as it seems to the writer, the enterprise would have been venturesome. Industries establish themselves in particular localities for reasons which may be merely accidental at the outset ; but, once established, an industry is not easily to be outstripped by would-be competitors elsewhere, for reasons which are plainly obvious. The product becomes identified with the locality in the minds of the cosmopolitan public, and a population grows up, so to speak, in the industry. Cardiff, for example, would have a hard task if it attempted to rival Belfast as a ship-building centre, although Belfast, having to import all its coal, is from the point of view of physical geography at a disadvantage. If the attempt to establish the industry had been started simultaneously at both centres, Cardiff would, no doubt, have rushed to the front ; but Queen's

Island has now a great reputation for ship-building, and a huge population, consisting largely of the many trades concerned in the building of ships, has grown up around Belfast. This kind of train of thought was doubtless running in the acute mind of Mr. Nixon when he informed his French friend that a man of "enterprising spirit" would be required for such a speculation as was proposed. Nerve, courage, prudence, and indomitable determination are required for success in a hazardous business ; and Mr. Nixon not only failed to see them in his friend, but was straightforward enough to tell him so. Moreover, it would be necessary to find and appoint, for all purposes of supervision at any rate, men familiar with the working of iron furnaces, and such men could be found in England only. Just the same way, if the attempt were made to start ship-building at Cardiff to-day, men would have to be imported from the Clyde, or the Lagan, or the Tyne, or the Mersey, or the Thames. When we reflect how difficult a task that would be, how the best men would stay where they were, and how the inferior men would demand high prices, we may realise how prudent was Mr. Nixon in not encouraging his impetuous French friend to embark upon a scheme which

must, at the outset, have been surrounded by similar drawbacks.

The Frenchman did not yield without a struggle. The negotiations were carried on for some time ; but they ceased at last, and the collapse of the design was, as events proved, a piece of unmixed good fortune for Mr. Nixon and for the district of South Wales, with which he was afterwards, and for the greater part of his life, to be closely associated.

CHAPTER VI

SEEKING WELSH COAL

REGARDED from the standpoint of one anxious to trace the important steps in Mr. Nixon's career, the circumstances of his next visit to South Wales were merely incidental, and of quite minor importance; but accidentally they contributed largely to shape the course of his after life. He was called from the North of England to advise Mr. Beaumont, the same Mr. Beaumont whose name has already figured in these pages, in the course of his ordinary business as a mining-engineer. The unfortunate Mr. Beaumont, unfortunate because he was embarrassed by pecuniary difficulties from this time forward, was working the Tophill Colliery, and had unwittingly committed an underground trespass on the adjoining property, and he asked Mr. Nixon to come down to South Wales to look into the matter from his point of view. Mr. Nixon made his survey, formed his estimate of the amount of coal which had been improperly worked, and then inquired into the position

which had been adopted towards the aggrieved person. That position was, to put it bluntly, no position at all. The injured colliery owner had made claims; no attempt had been made to meet those claims; he was threatening proceedings at law, and there could not be a particle of doubt that, if he carried out his threat, he would recover heavy damages from Mr. Beaumont.

Acting upon the time-honoured saying, "Agree with thine adversary quickly," Nixon persuaded Mr. Beaumont that the matter should be entrusted to some trustworthy friend or agent with a view to the arrangement of the best terms possible with the owner of the invaded colliery. The advice was certainly sound, and, from the moment when he gave it, Mr. Nixon was freed from all responsibility in the matter. He had nothing to do with Mr. Beaumont's choice of a "trustworthy friend"; he took no part in the subsequent negotiations; he did not know what course the "trustworthy friend" pursued, or what were the terms of the arrangement which was eventually made. The result, eminently unsatisfactory as it was to Mr. Beaumont, who was forced eventually to see the Tophill Colliery in the possession of the "trustworthy friend," was in no

wise traceable to Mr. Nixon. He had advised wisely, since to fight a hopeless case is at all times the worst economy in the world ; but the best advice of the wisest men must be followed with intelligence, otherwise the desired results may not follow.

So much for the causes which brought Mr. Nixon back again to South Wales. With a word of sympathy we may dismiss them. But the accidents of the visit were of the highest importance in deciding his subsequent career. It happened casually, in the course probably of some evening conversation of men of business whose work was over for the day, that he heard that a Mr. Powell had sunk down to the steam coal in the Aberdare Valley, and had found the coal to be of admirable quality. Mr. Powell, unlike worthy Mrs. Thomas of the Graig Colliery, was anxious to find a market for his wares. Mr. Nixon, on the other hand, was in the happy position of the man who, having long been convinced that he could find the market, since he knew where it was, had at last, he hoped, found the wares to place upon that market. All his old desire to open the French market to Welsh steam coal, and of course to make money for himself, was revived : he saw the opportunity

and made use of it with promptitude. But, prompt as he was and ready to see every promising opening, he was not rash or precipitate. He did not fling himself into Mr. Powell's arms, so to speak, or expatiate without restraint upon the golden future that he saw before him in his visions. On the contrary, he took steps to visit Mr. Powell's No. 1 pit at Abernant-y-groes, and to satisfy himself of the quality of the coal before he made any movement towards approaching the owner with an offer.

As to the quality of the coal, he soon perceived that there could be no particle of doubt. The question was how he should contrive to obtain a sufficient supply upon terms reasonably advantageous to himself, and how he should scheme to place enough of it on the French market in the face of the prejudice which was sure to have to be encountered in a district which was a stranger to its virtues. It was, be it remembered, no inferior stuff, such as is produced in the Pas de Calais, that was to be displaced. Newcastle coal was already in large use on the lower reaches of the Loire, and in the foundries and sugar-refineries of Nantes. The very words "Newcastle coal" implied in those days a guarantee of high quality. The very expression "Cardiff coal," which now

gives an extra price to the coal which is shipped at Cardiff, was unknown. "Murther (Merthyr) coal" was seldom heard of, except among those employed on the small passenger steamers of the Thames. On the whole, the enterprise which Mr. Nixon was determined to carry out to a successful issue was one which required that nerve and resolution, that combination of courage and prudence in which he had found his French friend wanting. Those were the qualities essential to the satisfactory working of a great venture ; those are the qualities which are equally essential for the same purpose now ; and Mr. Nixon no doubt felt that he possessed them.

It was in some such mood as this, and clearly with a mind fully resolved to risk his all in the great venture, if he could secure a satisfactory agreement and make arrangements for an adequate supply, that Mr. Nixon went off to the Gaer, Newport, to see Mr. Powell. That journey, and the interviews which followed, were the turning-point of his career. To Mr. Powell, in judging the character of whom he was, as the sequel will show, slightly mistaken, he talked at length. He referred to his experience of former years in the west of France ; he spoke of the great opening which he believed that there was for Welsh coal

in France and so forth. Mr. Powell, who had already an output of 150 tons a day, and was on the point of opening a new pit, seemed exactly the man for his purpose. They discussed the matter from every point of view ; they bargained, they chattered, perhaps they even haggled, for Mr. Nixon was always a keen man in making a bargain ; but in the end, as always happens when one man has a commodity which he desires to sell and another man wishes to acquire that commodity and cannot obtain it elsewhere, an agreement was reached. It was to the effect that Mr. Powell was to supply the coal when the market was opened at such prices as he might be able to obtain from the French consumers, and that for a term of three years he should pay to Mr. Nixon ninepence for every ton exported to the west of France, and sixpence for every ton exported to Havre, or to any port to the eastward of Havre.

There need be no hesitation in saying that the bargain was highly advantageous to Mr. Powell. He took no risks, and Mr. Nixon, on the face of the agreement, took a great many. If no coal at all had been ordered, Mr. Powell would have been not a pin the poorer than he was before, save perhaps for a few hours expended to no purpose in conversation with Mr. Nixon. The latter, on

the other hand, practically undertook to act as commercial traveller, and to plant a new article of commerce in a district where it was unknown, and in which a very tolerable substitute for it was in constant use. He was to go out as a missionary, so to speak, to preach the virtues of Welsh steam coal, and Mr. Powell was to reap the lion's share of the profit. He was to go out at his own expense; he was to receive no salary, but merely a very modest commission; and when the term was over the commission would end, and the customers secured by him would be Mr. Powell's customers, and no commission at all would be payable to him.

As matters turned out, it proved that Mr. Nixon had to run far greater risks than appeared in the agreement—that he was called upon to show courageous enterprise, to risk his own money to the advantage of Mr. Powell, to show untiring industry and energy in pushing the trade in Welsh coal, and that in the end he was what is commonly called “done” by Mr. Powell. The sequel will show us that when the time for payment came Mr. Powell contrived to escape from his liabilities, and, to put matters plainly, had his market opened to him gratuitously. But that comes later. In the meanwhile, the story of Mr.

Nixon's adventures and struggles in France—a story which is truly romantic, or as romantic as anything in civilised commerce can be, must be told ; and that story is too full of interesting incidents, too vividly illustrative of the indomitable and determined character of the man, too instructive and suggestive to the young man starting in business who desires to learn when prudence and boldness may row in the same boat, to be attached at the tail end of a chapter. Let it suffice for the moment to leave Mr. Nixon in possession of a bargain which would enable him to try, by such methods as his genius for business might suggest, the great experiment which had over and over again, and for several years, been carefully and eagerly pondered upon by his busy brain. Let us leave him with his starting-point secure, sure of a supply of the black diamonds which he had never been able to secure before, and which he was certain of being able to introduce to a great and ever-widening market.

CHAPTER VII

HIS FIRST GREAT VENTURE

JOHN NIXON was not the man to let the grass grow under his feet ; nor, albeit never prone to lavish extravagance even when his wealth had grown great, was he the man to shirk bold expenditure when he was convinced that it would return to him abundantly in due course of trade. He was certainly not rich at this time, indeed he was very far from it. But he had put his hand to the plough, and he was not the man to take it away, but rather the man to drive it through all obstacles, through stony ground as well as soft, until the end of the furrow should be reached.

What, then, was he to do ? The Frenchmen certainly would not buy the coal on hearsay. They must see it, and test it, and must be taught how to use it. How was this to be accomplished ? It was hopeless in those days to ask anybody else to run the risk of shipping a cargo to France, and his agreement with Mr. Powell was one which carefully precluded so much as the suggestion that the latter should run any risk

or be placed at any expense. The venture was to be Mr. Nixon's own. Accordingly, slender as his means were, he chartered a vessel of one hundred tons to convey a cargo of coal to Nantes. He paid for the cargo, he paid the freight, he made all the arrangements, and it was ever the honourable and familiar boast of his later and unchequered years that he was the first man who ever ventured to export a ton of Welsh coal to France. He himself proceeded by a more direct route to Nantes, to make preparations for the reception of the coal ; and when it came, and was placed alongside one of the wharves, one may well fancy that the shrewd young North Countryman's mind was full of hopes and fears. He was at the beginning of a great enterprise, fully resolved to do all that in him lay to compel Fortune to smile upon him, but fully alive, no doubt, to the very serious obstacles which the prejudices and the innate conservatism of man would inevitably place in his way.

In this critical situation Mr. Nixon's previous acquaintance with Nantes stood him in good stead. Long before, when he was trying to make bricks without straw at Languin, perhaps some evening at dinner in the well-known hotel which still stands in the central square of Nantes,

he had made the acquaintance of a gentleman who held office in the Government factory and engine-building works at Andrette. This gentleman was also an intimate friend of the then Minister of Marine. Their talk had been of coal generally and of Welsh coal, with the merits of which Mr. Nixon had always been deeply impressed, in particular. We take leave to fancy Mr. Nixon standing on the wharf, with the Loire in front of him, flowing in majesty towards the sea, beyond it and to the left the tall chimneys of the factories and sugar-refineries, belching forth the foul black smoke which it was his mission to banish, with the noble town rising behind him from the long row of stately houses, which now as then fringe the river bank. Now and again he directs his eyes upon the little cargo of coal, only a hundred tons, but meaning a great speculation in a man of his means, in which his hopes are centred. He knows, none better, the sterling merits of his fuel ; but how shall he make them known to the world ? If his venture should fail, if the manufacturers and the shipowners persist, after their fashion, in running in the old groove, it will be for him a very serious matter indeed, a terrible loss, for the quantity of a loss is relative to the means of the loser, and five pounds lost may mean ruin to a

small man, when £50,000 make no difference to one of the great ones. He reflects that the time has come for convincing his old friend of Andrette that he was not talking wildly in the well-remembered discussions of long ago. Clearly his Andrette acquaintance, a man in the public service, a man familiar with the society of Nantes, and possessing influence in the highest quarters, and in those most suitable for the purpose in hand, is the man to apply to. To have convinced him, to compel him to admit the superior qualities of the Welsh coal, to induce him to talk about those merits among his friends will be to have won the first battle of the campaign.

To Andrette accordingly Mr. Nixon went, and there he met the friend of earlier days. To him he said that he had a cargo of Welsh steam coal at the river-side, and that there was nothing that he desired more than to see a searching trial of it and of North of England coal, with the view of testing their comparative merits. He made no secret of his desire to substitute the Welsh for the Durham and Northumberland coal, which was then in use at the Government factories in and about Nantes. The French friend demurred for a while. He was not, he said, capable of making the experiment, nor did he possess the

necessary apparatus. But Mr. Nixon was not to be deterred from prosecuting his ambition. He observed that his friend was, by virtue of his position and of his long acquaintance with Nantes, the possessor of many acquaintances who used coal for one industrial purpose or another. He begged him to bestir himself in the matter, and to inform all or any of these gentlemen that a sufficient supply of the precious cargo was at their disposal gratis for the purposes of experiment. One condition, and one only, had to be made. Mr. Nixon insisted that he must be present, in order to show the stokers, whosoever they might be, how to deal with the coal. In truth, to the man familiar with coal from the North of England, painfully acquainted with the constantly recurring necessity for stirring up the fire and for cleaning out the entire furnace, Welsh steam coal is puzzling at the outset. The action is too simple: it burns away steadily, and without effort on the part of the stoker. If it is poked and raked and meddled with, it burns away too fiercely, and, to use vulgar but expressive language, plays the mischief with the furnace and burns away the bars. A stoker once acquainted with its qualities is naturally well contented to enjoy his leisure and to leave the good coal to

do its work unassisted ; but a new stoker, finding the coal somewhat slow in the first kindling, is prone to stir it, and so stirring to cause destruction. So, having made his offer, Mr. Nixon went away to await the result as patiently as might be.

He was not long kept in suspense. Not more than three days passed—very likely they seemed to pass slowly—before he learned by letter from his friend at Andrette that one of the large sugar refiners of Nantes was willing to give the new coal a trial ; and on the following day three tons of the coal were sent to the factory, and Mr. Nixon attended in person to superintend the firing of the coal, and to instruct the men in the management of the fire when it had been kindled. The unqualified success of the experiment is best described by a bald statement of the result as compared with the work done with the Newcastle coal, to which the firemen were accustomed. That factory was usually at work from six in the morning until six at night. On the day of the crucial experiment the allotted task of work for a day of twelve hours was finished by four o'clock. Nor was the reason of this huge economy far to seek. With the Newcastle coal it had always been necessary to cease work, thus permitting steam to go down and in-

interrupting the boiling of the sugar in the middle of the day, for the purpose of cleaning out scoria. With the sharply crystallised and keen-burning Welsh coal there was no scoria at all, there was no call to clear out the furnaces ; the work went on without hindrance or interruption ; the attendants of the furnace had not nearly so much work to do as previously. Ten hours of fire from the Aberdare Valley were unquestionably proved to be worth twelve hours of fire imported from Tyne-side. For a first experiment it was a tremendous and welcome triumph.

But there was more to come. Mr. Nixon was determined to show that the economy was not merely one of time, which among capable men is money, but also of coal itself. It was on the following day that he met the owner of the sugar-refinery, who was naturally full of praise and thanks. The conversation between them always lingered in Mr. Nixon's memory, as is always the case with conversations that are connected with vital episodes in the life of a man. The owner greeted him with a cordial smile, and with the observation, " You have made all our workmen gentlemen."

" I am very much pleased," said Mr. Nixon, " to have been of service to them, but I have

also been of service to you. The consumption of coal at your factory yesterday was much less than it has previously been with you."

"Well, I have not had time to measure that."

"I have not the slightest doubt but that you will find, on inquiring of your workmen, that I am right, and that the saving is thirty-three per cent. The economy of time is owing to the absence of the necessity of clearing out the fires when this coal is used, as you are obliged to clear them in the case of Newcastle coal."

Then came the long-desired order, and in a few minutes Mr. Nixon's bold and costly experiment had borne fruit, and the first order for steam coal to be exported from South Wales had been given by a French consumer.

"I should like," said the French sugar-refiner, "to have a cargo of it. Can you guarantee that future shipments shall be of the same quality as this?"

"You cannot think me such a fool that I would come over with a good cargo, and then, upon getting an order, would send you inferior coal. I have incurred a great deal of expense in coming over and presenting you with the coal, and I certainly should not have done so if I had not had confidence that it would be an advantage to con-

sumers to use it instead of that which they have been using."

However, the French sugar-refiner insisted upon his guarantee, and obtained it, and gave his order. With that order a trade in Welsh coal, destined to be very great, and to continue to the present day, began. That great achievement may fairly be placed to Mr. Nixon's credit. He created the trade between South Wales and France. Others, no doubt, would have been the pioneers if Mr. Nixon had not come to the fore; in the same way somebody would have discovered the principle of gravitation if Newton had not. But the honour belongs to him who is first in the field, and not to the hypothetical persons who are anticipated; and certainly few great developments of commerce have owed their origin to men of humbler circumstances than those of Mr. Nixon in early days.

The sugar-refiner, no doubt, talked amongst his business friends of the wonderful fuel which was introduced by the young Englishman, but he did more, and that which he did led to great results. He wrote a report of the experiments, and of this report a copy was sent to Mr. Nixon's friend at Andrette. This gentleman had possibly felt in the beginning that, holding

an official position, he was precluded from encouraging Mr. Nixon as he wished. Officialism, in France as in England, is bound up in tape, and, whether the tape be red or of some other colour, it has the same stiffening and paralysing effect. Moreover, officialism, made cautious by long experience of futile inventions and profitless discoveries, is instinctively averse to encouragement of the inventor or the discoverer. But, with the sugar-refiner's report before him, the Andrette official, already well disposed towards Mr. Nixon, felt that the time had come when he could lend a helping hand without being snubbed at headquarters. So he wrote a pleasant and welcome letter to Mr. Nixon, and the effect of that letter was that, as Mr. Nixon had clearly proved that his coal was superior to that which they had been using, he thought it only fair to give him an introduction and a recommendation to the Minister of Marine. That the letter delighted the recipient needs hardly to be said, since it showed that, in an almost incredibly short space of time, the virtues of the coal on which he had staked so much had obtained substantial recognition. But, assured from the beginning of the good disposition of his friend, he thought he saw a better way of securing his ends, and, in a word,

like *Oliver Twist*, asked for more. He was apprehensive of the effect which might be produced upon the Minister of Marine if a stranger and a foreigner presented to him a mere letter of introduction. And he was wise ; there are few men in high place who do not know too well the "gentleman with a letter of introduction ;" and there are many men in high place who have a very pretty facility in getting rid of that gentleman. Mr. Nixon therefore suggested that his purpose would be served infinitely better if his friend would be kind enough to certify directly to the Minister with regard to the good quality of the coal which he had at his disposal.

Mr. Nixon, after his habit, carried his point. Lack of persistency or of perseverance were never to be reckoned amongst his faults. The certificate was despatched, and he shortly learned that his friend had received a reply stating that, if the superiority of Welsh coal for steam purposes was believed to be more or less established, the Minister considered that the matter was one which the Government ought to investigate and to verify for themselves. In these circumstances the Minister had written to the manager of the works at Andrette inquiring how the trial might best be made, and upon receiving a reply he would write further.

This promptitude in a Government official was, from the English point of view, quite marvellous ; and the letter, full of good tidings as it was, not only rejoiced Nixon's heart, but set him thinking on the best way of using his opportunity. He alone in France, and as well perhaps as any man in England, knew the peculiar qualities of the coal and the treatment which it required while it was in process of combustion. It was essential to complete success that he should be present at the trial, that he should play the part of showman, so that the virtues of his coal should be made manifest to the full in the first place ; and, in the second place, to obviate the failure which must result from the operations of an ignorant stoker. Full of such thoughts as these, he called upon the manager of the Andrette foundry, and from him he learned for the first time that a letter had been received from the Minister of Marine in which a trial of the Welsh steam-coal was actually required and commanded. Here was news indeed. Hitherto Mr. Nixon had heard of nothing more than a request for information as to the methods of trial. Now he knew that the much-desired trial was actually to be made. Moreover, the manager, like the sensible man that he was, asked the introducer of the coal, as

the man who knew more about it than anybody else, what methods of trial he would suggest. There are, it may be written without hesitation, many Government officials in the France of to-day, and in England too, for that matter, who in like circumstances would themselves prescribe the tests to be applied to a material of which they did not in the least understand the qualities. Mr. Nixon was indeed fortunate in happening upon a man of common sense in the person of this manager, for common sense is quite one of the most uncommon attributes of man.

To Mr. Nixon a question of this character presented no difficulties. All his life through he was in the habit of inventing mechanism whenever he stood in need of it, as will be shown convincingly later, and his inventions were not only, to all appearance, made on the spur of the moment, but also absolutely productive of the end desired. Invariably they had the characteristic merit of seeming to be obvious, but it is in discovering that which, although obvious, has not been discovered before, that genius consists. The way, he replied at once, of ascertaining the evaporative power of the coal would be to have a simple boiler fitted upon a weighing machine, and a separate weighing machine for the furnace. They

would thus obtain simultaneously the quantity of water evaporated from the boiler and the quantity of coal consumed in evaporating that quantity. The manager demurred for a while, pointing out that the apparatus required would be costly. So it would have been if it had been necessary to purchase and erect it *de novo*. But Mr. Nixon was not to be denied. The weighing machines were there in the yard already ; his keen eye had observed them as he entered the foundry. As for the boiler, a small one would serve their purpose every whit as well as a boiler of large dimensions. So the engineer was sent for, and when Mr. Nixon had explained his wants to him, he in his turn explained that they were already in possession of just such a boiler as was required. In the face of these facts the manager no longer demurred, and it was arranged that the apparatus should be ready and the trial made in a fortnight.

At that all-important trial Mr. Nixon was, of course, present, for the issue, which manifestly was no less than the question whether Welsh coal should be adopted in the French navy and Government works, was of the utmost consequence to him. He watched the whole trial with anxious care, and personally superintended the operations. No man was per-

mitted to poke the fire under any circumstances. If additional heat was required, a hook must be used under the bars, and, to preserve these from being burned, the furnace had to be covered with six or seven inches of level coal, with a slight increase of thickness towards the furnace-mouth.

Trial having been made of the Welsh coal, an equal quantity of Newcastle coal was submitted to an identical test. Between the combustion of the two coals there was a world of difference. The Welsh coal was practically smokeless, and, when once fairly kindled, required no labour on the part of the stoker. The Newcastle coal, of course, was very far from being smokeless, and the stokers were called upon to exert themselves considerably while it was in process of combustion. But the true ordeal was that which took place by means of the weighing machines. Here the result was startling to all the watchers except Mr. Nixon. Smoke and constant labour on the part of the stokers might be disagreeable, but nothing more. If the Welsh and Newcastle coals, employed in identical quantities, had produced pretty nearly the same results in the way of evaporation (which is but another

way of writing "power"), Mr. Nixon's triumph would not have been signal. But the weighing machines, accurate and incapable of bias, established as an impregnable truth the statement made by Mr. Nixon to the sugar-refiner after the first serious experiment. The Welsh coal was found to produce a result 33 per cent. and a trifle more greater than the Newcastle coal. In a word, its substantial superiority was established beyond the possibility of doubt.

It was a great day for Mr. Nixon, and it is easy to realise the feeling of exultation which must have possessed him when he witnessed the virtual triumph of his darling project. After this conclusive demonstration there could be no room for doubt of ultimate success. Nor were the French officials slow to act upon the information which this trial provided for their use. The Andrette manager reported the result of the trial promptly to the Minister of Marine. Without delay that official ordered a cargo to be sent from South Wales to Brest for actual and practical trial on board one of the frigates of the French navy. Nothing could have been better. On the other hand, since success in this second trial could mean nothing less than the certainty of a prominent position in the

French market, it was of supreme importance that the coal used in it should be handled with skill and knowledge of its requirements. Mr. Nixon accordingly went in person to Brest, and impressed upon the naval stokers and firemen those instructions, puzzling to the uninitiated by dint of their absolute simplicity, which must be obeyed if the best results were to be obtained. At last an exhaustive trial was made. It extended over two days, the frigate being six hours under steam during each of those days. The result was a most favourable report, and an official statement that, although no scientific tests were applied—after the trial at Andrette, indeed, such tests were no longer necessary—the quantity used per hour was obviously much less than when Newcastle coal was employed. Subsequent trials were made, by order of the French Government, at Havre, Cherbourg, Toulon, and Bordeaux, a man acquainted with the use of the coal being sent by Mr. Nixon in each case, and always the result was eminently satisfactory. Then came the climax, which may be stated in a very few words. The French Government definitely adopted Welsh coal, boldly introduced to France by a young and comparatively unknown North-

Countryman at his own risk, as the coal to be used exclusively, from that time forward, in the French navy; and this, it must be remembered, was long before the British Government had so much as given a thought to the unlimited store of unsurpassable fuel which lay in the bowels of the earth within the confines of Great Britain.

One quality of the Welsh coal which particularly commended itself to the French naval authorities was its freedom from smoke: and this for practical and not merely æsthetic reasons. The value of this smokelessness in a naval fuel may easily be illustrated from contemporary experience. Let any man go to some place, to the summit of Hoglees Ridge at Bisley, for example, when musketry firing is going on close by. Looking down from Hoglees on to the plain at Pirbright, he will often see many companies of the Guards and hear a volley fired, now here, now there; but the explosive is practically smokeless, and the spectator cannot distinguish the company which has fired the volley. Now, in former times, when black powder was in use, the volume of smoke which rose from a volley often enabled the spectator to see where the firing company lay, even when

the distance was so great that the men themselves were almost invisible. Similarly, at the moment of writing the individual who writes can gaze over the sea to the horizon. A thin wreath of dark smoke appears in the remote distance. No funnel, no masts, no outline of a hull are visible. Yet he knows that under that black smoke is a vessel which is not burning Cardiff coal. Had she been burning that coal, she might have stolen up, and until she was in full view her smoke would never have betrayed her. Small wonder, then, that the naval authorities of France should have seen at a glance, so to speak, the fighting value of smokeless coal.

It is hardly necessary to say that Mr. Nixon, armed with the official reports of the trials to which his coal had been subjected—reports which he caused to be printed and circulated—soon found a ready market for his coal in Nantes and its neighbourhood. In particular, the sugar-refiners, who at that time made Nantes the centre of their industry, were attracted by the saving of as nearly as might be one-third in fuel consumed, and of an immense amount of labour, which the Welsh coal offered. The steamboat proprietors were at first] less ready

to take the Welsh coal into favour. What was sufficiently satisfactory to persuade the Government to oust Newcastle coal was not enough for them; and they raised the really fatuous objection that, since the coal did not require poking in the furnace, it was of no use to them. The simple fact of the matter was that they felt difficulty in getting out of the old groove. But they had to deal with a determined and persistent man in Mr. Nixon. He pointed out to them the senseless character of their objections. He assured them quite frankly that he certainly would not provide them with coal for purposes of trial if they on their part were going to ruin it by poking it. The coal, he said, was none the worse, but rather much the better for the fact that its use called for less labour than was required when Newcastle coal was employed. Its single disadvantage was that it was slow in kindling. Finally, as before, he offered to supply the coal free of charge for purposes of trial, and to go down to each vessel in person a quarter of an hour earlier than was usual with the stokers to superintend the lighting of the fires.

The opposition which Mr. Nixon had to encounter in this connection was of the most

obstinate description, but the persistence of Mr. Nixon was at least equal to the obstinacy of the Frenchmen. In every case save one he secured immediate and unquestioning recognition of the merits of the Welsh coal, and in the exceptional case, which is rather amusing to look back upon now, he won in the end. Calling one morning upon the owners of a line of steamers plying between Nantes and Pembroëuf, to whom he had supplied coal for experimental purposes on the usual conditions, he learned to his horror that a vessel had been sent out with his coal for fuel, but without any competent person to instruct the stokers in the manner of using it. Well knowing what would happen, he reproached the owners with their neglect of the stipulations he had made, and went anxiously down to the quay-side, at the time when the vessel was due back from Pembroëuf, to await her arrival. An hour passed and no vessel was seen: a serious matter this, for Pembroëuf, now a place of decayed importance, lies at no great distance from Nantes. Another hour passed, and still no vessel appeared. It was not until three hours after her time that the steamer came crawling and labouring up to the wharf, while a perfect storm

of "sacré's" hissed and rolled from the crew. As she drew alongside, the captain pointed out Mr. Nixon as the Englishman who had supplied the coal, and the said Englishman had a narrow escape from being mobbed and from having his career cut short on the spot. But he was made of more sturdy stuff than to be affected by intimidation, and instead of going away, he went on board and had matters out with the engineer, beginning thus :

"I see you have been using Welsh coal."

"Yes. Do you call this stuff coal? Our name for Wales is 'Pays de Galles,' but it ought to be called 'Pays de Gale' ('the country of the itch'), for the coal we have here is every bit as bad as the itch. Just look at these bars ; the fronts are all down, and I think you ought to pay for them."

"Perhaps you do not know the circumstances, but I must tell you that I gave this coal free of charge on the explicit condition that I should be on board when it was first used, to show the manner of employing it."

"I did not know that, and I am surprised that the coal was put on board under the circumstances, without my being told anything about it. It is a pity you gave the coal, for it has done a lot of damage, and I could not get up steam."

“You could have got up steam if you had started the fires a quarter of an hour earlier. And I am sure you will agree with me that it is a lot better to have no stoking or poking to do, as is customary with the coal you have been using in your steamer until now.”

“Well, it seems to me we shall never get steam with that coal, as we have tried it in every way, and there will be a pretty state of things when our people learn that we have burnt out all the bars, which will alone cost £15 to renew.”

Finding nothing very encouraging on board the ship, Mr. Nixon then called upon the manager of the line of steamers, whom he found in the most unpleasant mood. As for the coal, it was, in his opinion, quite worthless, and he wanted to know whether Mr. Nixon was aware of the cost of renewing the bars. One knows the demeanour of a Frenchman, his vociferous volubility, and his passionate desire to say the fault lies anywhere except where it does lie, in the face of a misfortune of this sort. “*Nous sommes trahis*,” was the Frenchman’s feeling ; and he was convinced that Mr. Nixon was the betrayer. But the French manager had to deal with a cool and unimpassioned Englishman, who, while he was quite ready to be at the expense of replacing the bars

which had been destroyed through lack of skill and knowledge, was none the less determined that the Frenchman should be compelled to see, whether he desired or not, where the fault lay. First, he was reminded that in sending the coal out on the vessel without Mr. Nixon or his representative, he had been guilty of a distinct breach of the understanding upon which the coal had been supplied to him. Then he was informed that the whole of the mischief was due to the poking of the fire, which had caused the coal to drop under the bars and consume them. At last, on the terms that Mr. Nixon would supply new bars, and that the manager would make no trial without the presence of Mr. Nixon, a new trial was agreed upon. At that trial Mr. Nixon was present, and the desired success was achieved.

But the achievement was far from easy. The men in the stoke-hole were nervous and fidgety ; they were perseveringly anxious to poke the fire ; they declared to Mr. Nixon that if more steam were required they were bound to poke the coal ; and it was only by giving bakshish, as well as by addressing to them every kind of command and entreaty, that Mr. Nixon was able to induce them to desist from a habit of stirring the fire which had almost become instinctive. It might

be imagined that it was easier to leave a fire unpoked than to go to the labour of poking it; but habit is powerful, and the writer well remembers that a magnificent fire of coal from the four-foot seam at Dyffryn, Lord Aberdare's seat, once presented to him just the same temptation as that which the simple stokers on the Loire found it almost impossible to resist.

Returning to the manager, Mr. Nixon did not at once vaunt his wares, but simply told him to ask his men what they thought of the Welsh coal after proper trial. In a few days, however, Mr. Nixon had the gratification of receiving from the manager of the steamships a letter stating that inquiries among the men had convinced him of the superiority of the coal, of its smokelessness, of the saving of labour to stokers which it involved, and of its economical character. He talked of ordering a cargo, but thought that the price ought not to be heavy. Mr. Nixon called on him and informed him that the price would be two shillings higher than Newcastle, but that, at this price, seeing that 67 parts of Welsh coal produced as much steam as 100 parts of Newcastle, there would be a considerable economy; and after a while a cargo of between one and two hundred tons was ordered.

Thus, by the enterprise of one young man, at his sole risk, and in the face of numerous obstacles, the foreign trade in Welsh steam-coal had its origin in Nantes. The manner in which that trade spread is written large in the chronicles of Cardiff, and Newport, and Swansea ; it has its magnificent memorial in the fact that Cardiff is the premier exporting port in the United Kingdom. That this state of things would not have come to pass if John Nixon had never been born must not be written ; it was bound to come. But the fact remains that John Nixon was the man through whom this great trade arose, and that he forced it into existence by his energy, his courage, his persistency, his indomitable enterprise, and his wise and far-seeing judgment. That, it may fairly be claimed, is no slight or inconsiderable exploit to be placed to the credit of the man.

And what was his reward ? In the immediate future it was very small, it was indeed even less than he had honestly earned as commission upon the coal ordered from Mr. Powell by French customers. For when the term of three years ended, Mr. Nixon called upon Mr. Powell by way of obtaining some £300 due to him as commission under the agreement already mentioned. Thereupon Mr. Powell threw his hands up in

the air and refused payment, on the ground that Mr. Nixon was getting more out of the coal than he was.

“But,” said Mr. Nixon, “there is an agreement, signed by you, that you would pay me this. You know I have paid you regularly for the coal, and it is only fair that you should pay me the commission agreed upon, especially as it cost me far more than the amount of the commission due to get the coal introduced into the foreign market.”

More wrangling and attempts on the part of Mr. Powell to get out of his liability followed, but in the long run, and after much delay, the money was squeezed out of him. In the subsequent days Mr. Nixon, believing the agreement to be still in force, sold more coal for Mr. Powell and claimed his commission; but never a penny more did he get out of Mr. Powell, who, when reminded of the existence of an agreement and under threat of legal proceedings, observed—

“Now, Mr. Nixon, I was never afraid of the law. I have had a lawsuit with Lord Bute and I beat him, and I will beat you too. To hear you talk about agreements! I have never in my life made an agreement that I could not get out of, and all that are against me I get out of.”

With a man of that temper it was wasteful, as indeed it almost always is, to go to law, and Mr. Nixon no doubt was well advised to let the matter drop. It is a matter of no great interest now; it is over and done with; it is enough for us to say that "the gratitude of Mr. Powell" would be a theme that would tax the capacities of the readiest writer.

CHAPTER VIII

SINKING AT WERFA

IN the preceding chapter we have seen the first great step in Mr. Nixon's career taken, and his foot firmly planted on the ladder. He had opened the French market for Welsh coal—he had established the trade on a sound basis. To go on working mainly for the benefit of Mr. Powell, who was averse to paying and had not a thought of gratitude, was clearly out of the question. Moreover, Mr. Nixon, with his experience and ability as a mining engineer, was clearly too clever a man to waste himself in selling another man's coal on commission, whether he got his money or not. He was ambitious also. The fitness of things demanded, and that in the most imperative tone, that he should himself reap the profits which were sure to come by supplying on a large scale the splendid market which he had shown such tact and courage in opening.

Providence or destiny, call it which you will, was favourable to him. Just about the time

when he returned to South Wales from France, Lord Bute had taken a lease of the Werfa property from Mr. Thomas of the Court. The objects of this transaction were two. First, it was desired to prevent the Aberdare Iron Company from working the Werfa coal to the exclusion of the Bute coal; secondly, it was desired to ensure the shipping of the Werfa coal at the Bute Docks. Those objects are in themselves of no great moment in relation to our present purpose, but the transaction is relevant because, Lord Bute having taken the property, it passed under the hands of Mr. Clark, his principal agent. Now Mr. Clark had enjoyed, as has been mentioned at an earlier point in this volume, the opportunity of recognising Mr. Nixon's ability as a mining engineer at an early period, and the return of Mr. Nixon gave him the chance of consulting him about the Werfa property. The chance was not missed, and in a short time Mr. Clark and Mr. Nixon inspected in company the Werfa estate. Into the interior of the earth of the estate they could not penetrate as yet, but it was possible for them to inspect the workings on either side of the Werfa boundaries. On the one side the Aberdare Company were working what is known as the Abernant level (No. 9),

and upon going through this and the workings immediately adjacent to Werfa, Mr. Nixon found the coal to be of excellent quality. Also the workings were free from gas, that terrible foe of the underground worker in South Wales, and there appeared to be no great reason for apprehending trouble from water. On the right and left of the Werfa boundary the coal was five feet six inches in thickness. In a word, this was precisely the kind of property which Mr. Nixon himself was desirous of leasing, and he resolved to acquire it if possible.

Having reached this conclusion Mr. Nixon promptly called upon Lord Bute's agent with a view to arriving at an agreement, offering the same price as Lord Bute was paying, that is to say, tenpence per ton for the four-foot seam. No hitch occurred in the negotiations; but in the midst of them, quite uninvited, the Mr. Beaumont whom we have met earlier in the course of this narrative, asked to be permitted to take a share in the colliery. Mr. Nixon assented, subject to the express condition that, as the work of sinking progressed, Mr. Beaumont should bear his share in the expense. To this condition Mr. Beaumont would not agree, although he must have known perfectly well, indeed he was distinctly told, that

Mr. Nixon was not in that financial position which would enable him to carry out the undertaking alone. In spite, however, of the unsatisfactory nature of Mr. Beaumont's attitude Mr. Nixon carried out the negotiations alone, and the terms of an agreement were eventually fixed upon between him and Mr. Clark. Then, and apparently not before, Mr. Clark was informed of Mr. Beaumont's desire to participate, and of Mr. Nixon's willingness to accept him as a partner, provided only that he paid his share as the work proceeded. But Mr. Clark had been in South Wales while Mr. Nixon was away in France. He knew how some men had thriven whilst others had gone back in the world; and at the mention of Mr. Beaumont's name he said little, but he shook his head, and there was a world of meaning in the gesture. Still, at the suggestion of Mr. Nixon a copy of the agreement was sent to Mr. Beaumont, and Mr. Beaumont replied that he must consider the matter before signing. When pressed upon the point repeatedly, he contrived to postpone it; and it appears that in the long run he never did sign the agreement.

Such was the relation between Mr. Nixon and Mr. Beaumont—a relation indefinite and unsatisfactory to the last degree—when the sinking of

the first pit on the Werfa property began, and as things went on the prospect grew not brighter but more gloomy. True it is that in due course of time Mr. Nixon struck the yard seam; equally true that all the neighbours thought that the four-feet coal had been reached. But, although no less an authority than David Williams of Ynys-Cynon, who was working coal at an adjacent spot, was convinced that this was the four-feet seam, Mr. Nixon had his doubts, and when he proceeded to test them they became certainties. To the northward and to the eastward the seam diminished in thickness, and the top was very poor; moreover, it was found to be from ten to twelve yards higher in point of elevation than the known level of the four-feet coal. It was about this time, when the so-called four-feet seam had virtually been proved to be simply the yard seam, that Mr. Beaumont came up to Aberdare to make inquiries into the affair; and the result of those inquiries was that Mr. Beaumont was remarkably well satisfied with himself for having postponed his signature to the agreement.

But the time arrived when a change came over the spirit of Mr. Beaumont's dream. The man who was his partner or not his partner in connection with the Werfa estate—it is really rather

difficult to say definitely what their relations were at the time—was one of the class of men who, refusing to acknowledge the possibility of defeat, always persevere until success is assured. Mr. Nixon went on sinking and, the ten or twelve yards of rock and loose shale having been pierced, struck the four-feet at the same level as in Abernant. Still, at the outset, the prospect was not encouraging, for to the northward of the pit the rock between the two seams grew gradually thinner, until, at a distance of 150 yards from the pit, they were merged. Farther on, however, the two seams parted, fell into their proper sections, and placed a very different complexion upon the enterprise after a while. But the work of sinking for coal must always be a trial to the nerve and courage of a man. Of its presence he may be all but certain scientifically ; but that his money will last he can never be assured ; and if the money does not last, it perishes as completely as last year's snow. We may therefore envy Mr. Beaumont who, without paying anything at all, waited up till the last moment to consider whether he would join in the enterprise at all. Success was in fact assured when Mr. Nixon pressed him for payment of the money which, if he considered himself in any sense a partner, was unquestion-

ably due from him. It was not until the four-foot seam had been proved that Mr. Nixon, who was by this time well entitled to repudiate any sort of agreement with Mr. Beaumont, peremptorily demanded payment. It was not until the profits, which had been problematical, appeared to be certain, or until after Mr. Nixon had borne the burden and heat of the day, that Mr. Beaumont made any kind of attempt to meet his liability. From our modern point of view it would seem that Mr. Nixon erred on the side of generosity in giving him a chance even at the eleventh hour.

The attempt to pay, when it came, was not calculated to assuage Mr. Nixon's feelings. He had spent his own hard money in paying the workmen as the pit was sunk. His so-called partner, whom he had trusted, gave him three months bills, upon which the Aberdare Bank positively refused to advance so much as sixpence. Mr. Nixon then asked for money, the moiety of what had been expended in the enterprise, and declared that, unless money were produced, Mr. Beaumont should have no share in the colliery. Mr. Beaumont replied that the bills would be met at maturity. But, in the face of the action of the bank, the statement carried no weight; for these local banks know, far better than is possible

in the case of London banks, the circumstances of the neighbouring men of business ; and when they refuse to advance money on a man's bills it is vain to expect money when the bills mature. In this stress of circumstances Mr. Nixon took legal advice, which was given in the only form possible. Beaumont was not liable to pay anything, since he had not signed the agreement as required. Beaumont was not entitled to anything, for he had neither signed the agreement nor parted with any money. No point of law could be plainer ; and as for merits, it was quite clear that Beaumont could not show so much as a shadow of them.

But Beaumont was not done with yet. On hearing of Mr. Nixon's determination to be rid of him, he went to see his friend Cartwright, the same gentleman whom we have seen obtain possession of the Tophill Colliery, and again wrote that the bills would be met when mature, and that money had been deposited at the bank at Bristol to meet them. Also he claimed half the colliery. Desperate as his affairs were, he saw that he had missed a great chance, and that a share in Werfa might set him right with the world again. But Mr. Nixon, who had certainly shown very great forbearance, had made up his

mind as to the course to be pursued. He wrote finally to Beaumont, pointing out that he had kept studiously aloof until all the risk was past and the coal had been proved and found ; that he had not paid a penny of the cost, and that he certainly should not have any share in the colliery. Beaumont, in effect, had tried to assume the position of a speculator on the Turf who should endeavour to get a share in the proceeds of a wager after that wager has been proved successful, without previously paying any part of the stakes or acknowledging that he was liable to pay.

But Beaumont had yet another tune to play. He went to see Lord Bute, and endeavoured to induce him to use his influence upon Mr. Nixon ; but the latter heard of this proceeding and took prompt measures. Calling upon Lord Bute's secretary (Mr. Collingdon), he requested that he might be confronted with Beaumont ; and when both sides had stated their case, Mr. Collingdon administered to Beaumont a severe and well-merited reproof. He had not, said Mr. Collingdon, a leg to stand upon ; he had been treated with the utmost generosity ; even after the risk was past he would have received half the colliery if he had paid his moiety of the expense ;

but instead of that he had given two worthless bills. If Lord Bute mentioned the matter, Mr. Collingdon would not fail to give him the true history of the affair. Nobody of plain mind will question that this was a just decision. No man familiar with the ways of the impecunious will be surprised to learn that Beaumont and Mr. Nixon parted with loud threats of legal proceedings (which came to nothing) on the one side, and with contemptuous repudiation on the other. Beaumont had rendered all amity impossible for the future by trying to prejudice Lord Bute against Nixon behind his back.

During all these negotiations Mr. Nixon kept a brave countenance, and his action in the matter of Mr. Beaumont was as strong as if he had possessed the resources of the Bank of England at his back. But as a matter of fact his slender stock of capital was exhausted, and, now that he had discovered the rich seam of profitable coal, he was at his wits' end for money with which to continue his operations, and to reap the harvest which his labours had earned abundantly. But *fortes Fortuna juvat*—Fortune helps the brave and strong; and Fortune helped Mr. Nixon at precisely the moment when he stood in need of assistance. He was staying, in these days, at

the Angel Hotel at Merthyr. To the same hotel, very frequently, came a Mr. Evens. Now Mr. Evens, who was a man of means, was on the look-out for a colliery investment, and mentioned the matter to the landlord of the hotel, whose name was David Williams. David Williams, in his turn, had enjoyed many conversations with the lessee of Werfa. Hence came it that eventually the man who wanted capital to work an enterprise which was more than promising, and the man who was willing to lay out capital if he saw the opportunity of doing so to advantage, were brought together in the dining-room of the "Angel" at Merthyr. The preliminaries did not take long. Mr. Evens wanted a share in Werfa, and said so frankly, asking the terms. Mr. Nixon would not come to terms until Mr. Evens had employed an independent engineer to inspect and value the property. Mr. Evens commissioned Mr. Heppell to inspect and value; Mr. Heppell valued at £20,000; and after a little haggling, but not more than is usual in such cases, Mr. Evens became owner of the fourth part of the colliery. From that moment onwards the colliery thrived and prospered, for the £5000 from Mr. Evens were employed by Mr. Nixon to such excellent purpose that the annual yield of the colliery

soon became £6000. Mr. Evens thus obtained an admirable return, £1500 per annum, upon his £5000, and Mr. Nixon was rewarded for his enterprise and perseverance. Pleasant also is it to be able to record that, in the flush of prosperity, David Williams of the "Angel" was not forgotten. His constant kindness to Mr. Nixon, and his readiness in bringing the two men together, were rewarded by a present of a twentieth share in the colliery, or £300 a year. At a later date Mr. Heath, an accountant at Bristol who audited Mr. Evens's business accounts, was admitted into partnership, and, with the aid of his two partners, Mr. Nixon was able to construct those very necessary means of coal transport, a long incline from Werfa to the railway, and a communication with the canal.

Such is the brief history of the early days of the Werfa Colliery, of the struggles which Mr. Nixon had to make, and of the difficulties which he had to meet, before he succeeded in establishing himself in a firm position in South Wales.

CHAPTER IX

DEEP DUFFRYN AND NAVIGATION

WERFA was a triumph at the time, and, no doubt, gave great encouragement to Mr. Nixon ; but, as compared with the operations which were to be undertaken and carried out later by its creator as a colliery, Werfa was but a small thing. It was the starting-point, and it may well be that, had the workings at Werfa turned out less favourably than they did, there would have been no occasion to write this narrative. In that part of it which remains, an endeavour will be made to trace step by step, but without undue particularity of detail, the manner in which Mr. Nixon, sometimes alone and sometimes in association with others, acquired this and that colliery or coal-bearing estate until his position in the world of coal-owners became pre-eminent. No more will be written than will suffice to indicate generally the position which he acquired, and the qualities of courage, foresight, and perseverance which helped him on his upward course. This book is not intended to

be a mere record of the piling together of money, but a faithful delineation of the kind of character which leads surely to success; and in this connection some of the incidents of the subject's career as a coal-owner, incidents illustrative of his methods in dealing with men, are of greater interest than are the accretions to his income. We shall find him fighting great combinations of rebellious workmen, inventing ingenious machines, arguing with the Great Western Railway, forcing them to be reasonable, influencing the policy of the Bute Docks. He was able to do this because he was a huge coal-owner, and because he was Mr. Nixon. A very few pages will suffice to trace his rise to the position of a great coal-owner, who could and did influence the trade of the entire district, and performed great deeds in its development.

Fully as Mr. Nixon realised the extension of which the South Wales coal trade was capable, the great success of the workings at Werfa served but to stimulate him to further exertion, and it was not long before he became associated with Mr. William Cory in a scheme of far greater magnitude than that of Werfa. Their design was to open a large colliery "to the deep," in the Aberdare Valley, and to sink deeper than

any other colliery owners had yet sunk. To this end they leased, from Mr. Bruce Pryce, Mr. Allen, and others, a large tract of minerals, christened it by the name of the Navigation Colliery, which is now known all over the world, and began the long and arduous business of sinking. That was still in progress—it was in fact destined to go on for years, before any result was obtained—when the colliery to the northward of Navigation came into the market. Its owner, Mr. David Williams, had met with difficulties in the way of ventilation which seemed to him insuperable. He had been warned by the Home Secretary, on the advice of Mr. Mackworth, Inspector of Mines, that the colliery was unsafe by reason of the defective ventilation, and that the responsibility for any accident that might occur would lie upon his shoulders. Hence came it that Mr. Williams offered the property known as Deep Duffryn to Mr. Nixon and Mr. Cory. Now Mr. Nixon had ideas, which took shape in his patent ventilating apparatus, concerning ventilation. The associates bought the colliery, Deep Duffryn, for £42,000. It had then an output of 150 tons a day, a great output in those days, which the vendor thought to be the most that could ever be obtained from it.

But he did not know John Nixon. Within two years Deep Duffryn, equipped with winding-engines of great power, with Nixon's patent ventilating apparatus, and with all the latest appliances, was producing not 150 but 1000 tons a day, and that rate of output has been more than maintained up to the present day.

The story of Nixon's Navigation was not, and had not been expected to be, one of rapid and immediate success. From the very beginning the ambition of Mr. Nixon and Mr. Cory had been to sink to an unprecedented depth, and that of itself was an operation which must take much time. But as the work progressed it became clear that the difficulties of sinking were to be of abnormal and unexpected character, for the Pennant rock, overlying the coal, turned out to be of exceptional hardness, and the work was laborious and costly in the extreme. The weight of steel tools used by the workmen in boring was, it was computed, five times the weight of rock removed in a shift. Altogether, the enterprise was one upon a stupendous scale, and many times over, in the fight between man and the *vis inertiae* of nature, nature had the better of the encounter. Contractor after contractor considered the various

obstacles that were to be overcome, and laid his tender before the indomitable owners; and one contractor after another found, when his tender had been accepted and he had worked to the best of his ability, that there was no money, but rather heavy loss, to be made out of the operation of sinking in Nixon's Navigation. Year after year the weary business of boring continued. Contractor after contractor tried his hand at it, and emerged in a state of crippled finance. The hard rock swallowed gold as greedily and as rapidly as if it had been a quicksand. At last things reached such a pitch that Mr. Nixon himself had to undertake the colossal task of sinking, and it was long before he achieved success. In fact, the rich coal which lay under the surface cost Mr. Nixon, through contractors and in his own person, precisely as many years of patient work without reward as the daughter of Laban cost the patriarch Jacob, for it was not until the seventh year of boring and of paying out money without obtaining any in return that the upper four-foot seam was proved, and subsequently the seams below in due course, in excellent section and of good quality. This was a great reward for untiring labour and dauntless perseverance; it

was indeed by far the greatest work of its kind which had, up to that time, been accomplished in South Wales.

It needs hardly to be said that, having reached the hidden treasure at last, Mr. Nixon and Mr. Cory set themselves to work to avail themselves of it at once. Nor did they commit the short-sighted error of spoiling the ship for a halfpenny worth of tar. On the contrary, they fitted the new colliery with the largest and best machinery for winding and ventilation, and began trading successfully in its products at once.

But Navigation Colliery did not satisfy Mr. Nixon's soaring ambition, if indeed that ambition can be described accurately as soaring which has its object far beneath the surface of the earth. Sometimes, indeed, the limits of his high ambition seemed invisible, and the apparent daring of his schemes frightened his associates. But Mr. Nixon, though bold, was never reckless or audacious. His designs might be, indeed always were, conceived on the grand scale; but they were invariably the result of the careful calculations of a man possessed of genius as a mining engineer, and intimately familiar with the disposition of the coal-measures. He proposed no adventure without the full conviction that, if

carried out in a thorough spirit, it would succeed; but, having proposed an adventure, he declined to be compelled to relinquish it by any natural hesitancy or timidity on the part of his colleagues. This word "natural" is used, because, when all had been said and done, it was reasonable enough that the men who had secured great fortunes in Werfa and Deep Duffryn and Navigation, should pause before committing themselves to new undertakings which might or might not turn out well. By such considerations Mr. Nixon was never deterred. If his comrades shrank from a risk which he proposed, he was always ready to carry out the enterprise at his own cost; and not less ready, when results had proved the absolute justice of his calculations, to allow his associates to share in the fruits of his enterprise.

The story of the Merthyr Vale Colliery is a strong case in point, illustrative alike of the keen judgment of the man, of his courageous confidence in that judgment, and of the large-minded generosity with which he was wont to treat comrades who had been of little faith. This enterprise commended itself to Mr. Nixon after the Navigation Colliery had been in fruitful working for some little time; and his colleagues being unwilling to extend their operations at the

time, he undertook the whole scheme, and carried it out at his own risk and cost. Far beneath the surface of the Merthyr Valley, some miles to the southward of any coal that had been proved in the district, and "to the deep" of the coal hitherto worked, a large tract of coal was believed to lie. It had attracted the notice of others before Mr. Nixon turned his attention to it. For example, Mr. Tom Powell, one of the largest coal-owners in the district, had desired to sink down to it, but his brothers and partners had positively declined to face the enormous outlay, which was an unavoidable preliminary to winning the coal. Mr. Nixon's partners were of like mind with those of Mr. Powell; but here came out the indomitable spirit of Mr. Nixon, and his motto of "Firmness and Fairness" was followed to the letter. Yield he would not on any consideration; to prove and win that coal he was absolutely resolved; but if his comrades did not care to risk their money, he was well content to prosecute the venture alone.

And so, after negotiating successfully for the extensive tract, Mr. Nixon did prosecute it, in the face of obstacles entirely unsuspected, which called forth all his inherent mechanical ingenuity before they were overcome; for in the course of the

tedious operation of sinking the men struck into mass of running silt, which may be taken to be as troublesome an obstacle as the sinkers of pits can encounter. First they tried, under the advice of Nixon & Co.'s agent Mr. Brown, a North of England device by way of overcoming the running silt; that is to say, they followed the sinking with four suspended side walls of timber to prevent the silt from running in. Twenty yards were accomplished in this way, but after that relentless nature vanquished man, and the whole apparatus collapsed. Others were for yielding on the spot, and for commencing operations elsewhere. But that was not Mr. Nixon's spirit. Opposition, whether of the forces of nature or of men, served but to brace his nerves and to strengthen his determination. He cast about him to discover what device might succeed where the suspended walls of timber had failed; and, as was his habit, he availed himself of the material which lay under his eye, and was to be obtained at small expense. He had observed, lying by the railway hard by, a quantity of worn-out Barlow rails belonging to the Great Western Railway Company. These he bought at £3 a ton. Of these he drove into position a sufficient number to form a complete casing to the pit,

fixing timber on the top of them by means of a strip of iron on either side of the rails as they went down. At every six feet driven the ground was cleared away inside, and a curb was introduced to keep the rails straight. So, steadily persevering, fighting the semi-fluid silt foot by foot, the sinkers won their way at last through the viscous and treacherous stratum to the solid rock, and had their pit completely timbered up to that point. The work that remained to be effected was laborious and costly, although in the light of Mr. Nixon's experience in penetrating similar rock at Navigation it was plain sailing. But it was a long voyage. He who goes sinking for coal must wait more than many days before he can hope to see the return of the bread which he has cast upon the waters. Five weary years of labour, of struggling against the forces of nature, of expenditure which must long remain unremunerative, passed away before the valuable coal was struck and the pit became a rich colliery, fitted with the most expensive and effectual machines, and equipped with that patent ventilating apparatus which was among the most useful of Mr. Nixon's many inventions.

At this point Mr. Nixon's generosity, a quality more often shown in great things than in small,

was strongly illustrated. When he began operations, as we have seen, his partners deemed the enterprise hazardous, and he alone backed his own judgment with his own money. Almost simultaneously with the proving of the coal in the Merthyr Vale came an improvement in the coal trade, and his partners saw at once that the venture was certain to turn out well. Thereupon, proceeding, it may be imagined, in a very diplomatic way (for they had no foundation for their claim in law or in ethics), they pressed him to allow them to take a share in the undertaking, as they had done previously. Mr. Nixon assented, on the terms originally that he should have an extra royalty of threepence per ton. But in subsequent times, lest he should be in a position of having interests in conflict with those of his partners, he voluntarily released them from this obligation; and this act amounted to presenting them with from £6000 to £7000 a year out of his own pocket.

The object of this chapter has now been accomplished. Nothing more was desired than to set forth the steps by which Mr. Nixon, having originally made the market for Welsh steam coal, became the possessor of collieries upon a great scale. How he acquitted himself as the owner

of collieries; how he fought many battles with workmen and others, with unvarying success, which resulted in great benefits to the district, must be reserved for later chapters. But for the outside world, for the instruction of those readers who know no more of the Welsh steam coal trade than that the coal is the best in the world, and that the name of Nixon is to be seen on multitudinous railway trucks, it may be as well to place on record a very small number of highly significant figures. In a very few years after the opening of Werfa and Navigation, the output of Nixon & Company was 60,000 to 70,000 tons by the year. It has now reached the colossal figure of 1,250,000 tons annually, and, on favourable days, as much as 5800 tons has been raised from the combined pits. Moreover, deep as the pits are, there have been no serious accidents from explosions. Surely, then, if there were nothing else worthy to be recorded in this story of a life's work, the career of the North Countryman who rose from the humblest circumstances to high eminence in trade may be regarded as remarkable and instructive in the highest degree. But, in fact, the most interesting incidents of his life still remain to be briefly narrated.

CHAPTER X

CONFLICTS WITH WORKMEN

IT was inevitable that Mr. Nixon, an employer of labour on an increasingly large scale year after year, should be brought into close contact with the British working-man, as an individual and in masses; and it may be said without hesitation, that no crisis in life tests the qualities of a man more severely, or shows more decisively the stuff of which he is made, than that in which he finds himself running directly counter to the wishes of the men in his employment, and yet feels that he is in duty bound to persist in the course which he has chosen. The working-man is, in very truth, the most loyal creature on the face of the earth, and is imbued with a love of ancient customs, even though they should enure to his own hindrance, which is little short of supernatural. His very loyalty and conservatism of mind make him difficult to deal with. To old methods, to the system which his father and grandfather followed before him, he clings with a persistent affection, which develops by way

of excess into prejudice. He cannot be weaned from the old ways. He becomes the sworn enemy of every change or reform in the arrangement of his work. He regards it with suspicion, not so much because it is beyond his intelligence, as because it is new, and because it is not in accordance with his habit to use any effort to understand it. It is, in the view of those who lead him by the nose, a move in the great struggle of Capital and Labour; it represents an apparently innocent but really insidious device of the man of brains to divert into his own pockets an additional share of the profits properly belonging to the men of thews and sinews.

Against this kind of prejudice and suspicion the employer, who is resolved never to be content with things as they are when he sees clearly that they might be much better, is frequently called upon to contend. And Mr. Nixon was emphatically such an employer. He spared no expense in sinking his pits; no scheme was so gigantic as to frighten him; no machinery was so costly but that, assuming it to be effective in proportion to its cost, his collieries were equipped with it. The man who treated his collieries thus and in this spirit, began his great work in South Wales at a period when, regarding things from the stand-

point of modern knowledge, the science of coal-mining was almost in its infancy in that district. He saw from time to time various changes, certain to result in improvement, which might be made. His attempts to introduce them were fought to the very last ditch by the men. These attempts were always successful, for by fairness, no less than by firmness, he always carried the day, and his efforts resulted in every case to the benefit of workman and employer alike. All his battles he fought practically single-handed, for in his early days there were no serious federations of employers. The story of his conflicts with labour, and of the issues which were involved in them, is, therefore, interesting.

The first dispute arose in Deep Duffryn, the history of the acquisition of which is given in the preceding chapter. David Williams, Nixon's predecessor in title at Deep Duffryn, had worked the coal on the pillar and stall system; that is to say, he had driven the headings three yards wide, the stalls six yards, and had left six yards of pillar. Necessarily, when the pillars came to be worked off, the great weight which they had been called upon to support had rendered them exceedingly friable. As for the stump that was always left next to the heading, it had naturally become

so greatly crushed that the coal of which it was composed was unmarketable by itself, and every attempt to work it off with other coal elicited serious complaint from buyers. In a word, fully twenty-five per cent. of the available coal of the first quality was wasted, or depreciated in value, before it came to the pit's mouth. It did not take a man of Mr. Nixon's business instinct long to make up his mind, that if a better plan existed this extravagant state of things could not be permitted to continue ; and he proceeded at once to study the "long wall" system, which was then in vogue in Lancashire and the Midlands, although it had never been adopted, or even tried, in South Wales. With this object in view he visited Mr. Dickinson, the Government Inspector of Mines for Lancashire. Mr. Dickinson, it may be added, was the man of all others whom it was wise to consult, since he was not only intimately acquainted with the Lancashire system, but also conversant with the practice of South Wales, seeing that previous to going to Lancashire he had been engaged in colliery work in South Wales. With him Mr. Nixon discussed the whole subject from every conceivable point of view. He found that the Lancashire and South Wales coalfields had one important characteristic in common, and that

a characteristic which no other coalfields possessed ; that is to say, the roofs in the collieries of the two districts were of very similar character. As for the pillar and stall system, it was held in Lancashire to be of no sort of account, to be obsolete, old-fashioned, and extravagant. Upon careful consideration he saw no reason why the long wall system should not be introduced into South Wales, and a great many reasons why it should be introduced ; and he returned to South Wales resolved that it should be introduced in Deep Duffryn as soon as possible.

His next move was marked by acute diplomacy. The men were in the act of driving two headings into a splendid section of the Four Feet ; the roof was comparatively good, and Mr. Nixon, without arousing the men's feelings by expatiating on the great change which he was going to make, quietly instructed his manager to leave a pillar of three yards only, instead of six as formerly. For three months on end the men worked on, seemingly blind to the fact that an entirely new system had been inaugurated, and, as a matter of fact, Mr. Nixon found that before long the two stalls worked into one another. The men, in fact, found it far more convenient to clear away all the coal as they went along. But at the end of

the three months it seems to have occurred to some of the men that they had been living in what they would have regarded as a fool's paradise, and signs of rebellion began to appear. One of the men who used to go next the heading and win a stall declared that he, for one, would not enter a heading unless a six-yard pillar were left. Confronted with Mr. Nixon, the man said that the system was new, and the men would not work at it. It was pointed out to him that, in fact, they had been working at it for three months, and that by working off the three-yard pillars which they had been told to leave, they had actually done more than the management had asked of them. But argument was of no use—it seldom is—and the man, remaining obdurate, was eventually discharged. And here followed a strange result. The mere fact that the man had, or thought that he had, a claim for a month's wages, made room for a County Court suit; and the judgment in that suit decided the question as between "pillar and stall" or "long wall" in South Wales.

Judge Faulkner was the County Court judge before whom this apparently trivial question, whether a discharged collier was, or was not, to receive a month's wages in lieu of notice, came

for trial. But the real issue was of the deepest importance; for the true question was, whether the "long wall" system was so far reasonably safe that an order given by master to man to work on that system was a lawful and reasonable order. The plaintiff's case admittedly was that he had disobeyed such an order, but that he was justified in his refusal to obey because the system was new to South Wales and dangerous in the last degree, since no pillars were left and the roof was only sustained by "little bits of props." To those who sat and listened, in full consciousness of the gravity of the question, it seemed that the learned County Court judge was deeply impressed by the evidence of the plaintiff. He well might have been so impressed. Before him was a practical collier, a man who seemed to have had no other inducement to leave his work in a first-rate colliery, and there appeared to be no conceivable explanation of his conduct, save that he honestly believed—in truth, he probably did believe, and felt thoroughly convinced—that the "long wall" system was dangerous. But the searching process of cross-examination put a different complexion on the business. The plaintiff was forced to admit that he had worked three months on the system without raising any

objection, that he had not said a word concerning any danger, and that during the whole three months nothing worse had occurred than some slight falls from the roof. Plaintiff, however, protested that as the heading advanced the danger would become greater, and unless pillars were left, the entire roof would collapse bodily. "In that case," said counsel in effect, "how did you venture to work away the three-yard pillars which you were directed to leave?" To this, of course, there was not any convincing answer. The supporters of the "pillar and stall" system had rendered their case hopeless by their own action; they had gone ahead of their master's orders, if not of his intentions; and a rough and ready explanation that a three-yard pillar was no better than no pillar at all, and therefore might just as well be worked away as not, served no useful purpose. It was, indeed, too manifestly absurd. If pillars had been of any value, or necessary to safety, then a pillar nine feet in diameter would have been of very substantial service. The address of Mr. Nixon's counsel clinched the business. He was not able then to point out how much easier ventilation was under the "long wall" than under "pillar and stall," but he was able to emphasise the fact that the system which

the plaintiff condemned as dangerous was in universal use in the Midlands and in Lancashire, and that the idea of protesting against it had come to him as an afterthought only when he had worked under it for three months. So in the long run—for the judge wisely took time to consider his judgment, and delivered it in writing—the decision went in favour of the “long wall” system; and that system was adopted, without opposition from the men, in the general body of the steam-coal collieries of South Wales. It saved trouble, and increased remuneration for the men; it gave landowner and colliery lessee at least twenty-five per cent. more coal to receive royalties upon and to sell in the market; it raised the proportion of large coal, which is valuable, to small coal, which is not. In short, it was a beneficent change, and the credit of it is principally due to John Nixon’s fixity of purpose and to his quiet and tactful diplomacy.

That Mr. Nixon was a man not easily to be deterred from his designs, the readers of this volume will have realised already. But to one important policy of his the opposition of the South Wales miners proved an insurmountable obstacle. For many years the introduction of the system of the double shift was dear to his

heart, and he succeeded in enlisting the co-operation of several leading colliery owners in South Wales. It is admitted on all hands that, from the point of view of safety, the double shift is much preferable to the single. But politics apart, there is no conservatism in the world to be compared with that of the working-man, and in this case this conservatism, which might even be described as obstinacy, was too much for Mr. Nixon.

There is, however, nothing more amusing, now that the trouble is all over, in the many experiences of Mr. Nixon's life, and nothing more conspicuously illustrative of the difficulties with which employers of labour are called upon to deal from time to time, than the story of what may be called "the great Cropper question." Hand-picking by "laughing girls" was the old rule in the days when an output of one hundred and fifty tons per diem was held to be appalling ; but as output increased with increasing markets, screens came into use. In those days, be it remembered, small coal was of absolutely no value, and "large" alone was paid for. In these days the "small" can be, and is, utilised to a great extent in the form of compressed fuel. The manner of estimating the proportion

of large coal to small was primitive in the extreme, and left room not merely for the display of favouritism and its opposite of spite, but also for the suspicion of the one or the other; and the suspicion, as may readily be imagined, was almost as troublesome as the reality. By each screen stood an official termed a "cropper," whose occupation consisted in making a guess at the amount of small coal, stones, or rubbish which had been brought up. "Croppers" were naturally in a most invidious position. They were accused of treating their friends with special favour, sometimes justly, sometimes on mere suspicion. Not only were the "croppers" hated by the majority of the men, but the system also involved constantly recurring annoyance and loss to the master. It was no uncommon event for men to refuse to go to work, thus leaving capital and plant idle, and the colliery exposed to danger, by reason of alleged excessive cropping of their trams. One cannot imagine a more irritating or a more objectionable system, or one more certain to lead to friction. Any reasoning being, unfamiliar with the ways of the working-man, might imagine that a scheme for the abolition of the "cropper," and for the substitution of certain justice and

fairness in his place, would have been welcomed on all hands. But Mr. Nixon's experience shows plainly that any such conclusion would be utterly erroneous, and that the working-man prefers to suffer the ills he knows when the alternative is something new of which he cannot, or will not, understand the principle and the exactitude.

At Deep Duffryn these disputes about the "cropping" were of constant occurrence. Hardly a pay-day passed without angry remonstrance, and many temporary strikes occurred. At last things came to a climax. On the Monday morning following a Saturday pay-day Mr. Nixon went up to the colliery. Instead of industry he found idleness. The winding-engines were not at work ; the men, instead of being engaged in winning the coal from the depths of the earth, were "playing" upon the surface. A conversation with his manager soon placed him in possession of the facts. Pay-day had been too much for the feelings of the men ; their indignation against the "cropper" had passed from words to open violence, and they had pitched him neck and crop into the canal. What was more, when the unfortunate wretch was well in the water, his persecutors showed no disposition to let him

return to dry land. Monday morning had come, and no man could be found to take the "cropper's" bishopric. It was all very well to hold a position of authority, but if the price was to be that of being half-drowned, the lot of a "cropper" was not happy enough to be choiceworthy. The moment was critical; it called for that rapid thought followed by prompt action which characterises the able general on the battlefield, and is no less valuable in other walks of life. In ten minutes' time Mr. Nixon's mind was made up, and he had determined irrevocably upon a plan which was to introduce a valuable improvement into every steam colliery in the country. It is true that the plan involved the invention of an unknown machine; but it can hardly be doubted that thought upon the innumerable disadvantages of the "cropper" system, upon its possible unfairness to the master no less than to one man as contrasted with another, and upon the continual quarrels that had arisen from it, had caused Mr. Nixon to think of an alternative plan. Be that as it may, he spent but ten minutes in reflection, and then called his men before him to hear from his own lips his unalterable determination. He spoke in severe terms of the savage treatment which they had measured out to the

unhappy "cropper." He informed them, in a tone which can have left little room for doubt of his resolution in their minds, that his mind was absolutely made up that no man amongst them should go to work in the pit again under the "cropper" system. A condition precedent to working in Deep Duffryn Pit for the future must be the signature by each collier of an agreement assenting to the employment of a machine of exact precision which would render the "cropper" system obsolete and unnecessary, by determining to a pound's weight the amount of large coal on each man's train. Such, in outline, was to be the effect of the scientific apparatus which he had resolved to substitute for the fallible and possibly corruptible human agency of the "cropper."

The men, however, were far from jumping at the offer. They pointed out, perhaps with some appearance of justice, that no such apparatus was in existence or in operation in any colliery. They declared themselves willing to work upon the same terms as men in other collieries, but they were clearly averse to a leap into what was, to them, the dark and unknown abyss of the mysteries of mechanical science. All that they desired was a new "cropper" in place of him

whom they had accused of corrupt favouritism, and sentenced according to the principles of lynch law. But Mr. Nixon showed no disposition to change his mind. He gave them clearly to understand that they had seen the last of the "cropper" system, to which they had themselves dealt the final blow by half-drowning its living representative amongst them. Further, he assured them that he would guarantee that, when they had once seen his projected apparatus in operation, they would be compelled to admit its unvarying and invariable fairness.

The men, however, were not to be persuaded. The demand made upon their faith was perhaps too severe. At any rate they positively refused to sign the proposed agreement, and Mr. Nixon, in a manner equally positive, informed them that, if this was their mind, they might go away, and that it would be useless for them to return to him until their views had undergone alteration. They went away, but after a fortnight had passed they returned to complain of the hardships which they and their families were suffering. They re-asserted their willingness to work under a "cropper" as before. But this was mere futility. Mr. Nixon had made up his mind then, as many employers have to make up their minds now,

that he would manage his own business in his own way, and his answer was shortly to the effect that there appeared to be nothing to discuss, and no reason why he or they should waste time in idle talk. Then came the first sign of wavering, the first indication of a desire on the part of the men to apply their intelligence and to try to understand something of the principle of the machine which they had condemned recklessly and without thought. They began to ask questions, sending two or three of their number to inquire how the projected machine would act, and so forth; and Mr. Nixon in his turn, willingly enough, explained his intention of affixing to each screen a dial which would indicate precisely the amount of coal passing through the bars from each tram. For the moment, at any rate, the delegates appeared to fail to understand, and they went away. But the explanation had evidently produced some impression upon them, and discussion upon the subject with their comrades had convinced them that there might be something in the suggestion of their employer. Hence came it that, even before he left the colliery that day, Mr. Nixon found himself again face to face with the delegates. They informed him that they had decided—a pretty word that

“decided”—to return to work on the morrow, and to wait until the machine was complete and in position under their eyes before signing the agreement upon which Mr. Nixon insisted. But they had reckoned without their host. If the right to decide whether they would work lay with them, the right to decide whether they should be allowed to work lay with their ex-employer; and he told them plainly that they should not go to work upon those terms, that he would guarantee the accuracy of the machine, and that he would not entertain any temporary arrangement which raised doubts concerning the precision of his projected apparatus.

To men who look back over a vista of years, well as they may know the proved precision of the apparatus which then existed in Mr. Nixon's brain only, it must none the less appear that there was something to be urged on both sides. If the men had not put themselves in the wrong at the outset of the contention by half-killing the “cropper,” it would not have been unreasonable on their part to refuse to buy a pig in a poke, to decline to trust themselves to the tender mercies of a machine that had not been proved in any way. Taking the matter in another way, it would certainly have been far better, if it had

been possible, for Mr. Nixon to have produced his machine and to have demonstrated its accuracy before the men's eyes. He might then have said, "You have seen the machine; you must perceive that it is infallible; you must acknowledge that a machine is not moved by the causes of human favouritism; from this day forth that machine shall take the place of the fallible man, the 'cropper,' of whom you continually make complaint." Such, in all human probability, was the straightforward course which would have been adopted in due time if circumstances had permitted. But circumstances, for which the men were undeniably responsible, did not permit. By their brutal and cowardly treatment of the "cropper" the workmen forced their employer's hand, and they could not expect to be heard when they demanded the temporary reinstatement of an institution which they had rendered impossible. Nor, most likely, would it have been feasible to obtain a new "cropper" for Deep Duffryn after what had occurred.

In any case, Mr. Nixon's judgment was soon proved to have been right, for, on the very next morning, a message came from the manager that the men desired to meet him again, and he met them at once. At first there were the same old

arguments, but the immovability of Mr. Nixon was plain. Of the fairness of the machine he was absolutely convinced; of the firmness of the man recognition had been forced upon the workmen. On dispersing, they gathered not in one great assembly, but in groups and clusters, and of these first one and then another came forward and submitted to sign the agreement. Thereupon the book of agreement was made out and signed by all the men, and an important lock-out—always a distressing affair, whatever the rights or wrongs may be—was over and done with.

Of the machine, which shortly came into almost universal use in South Wales, not only in steam collieries but also in iron-works, in connection with the coal used at the furnaces, and later in other districts, it is only necessary to say that it was no sooner erected than it secured universal admiration. The “small” from each tram passed through the screen, was weighed, and its weight was immediately recorded on the dial. The quantity of “large” and “small,” thus ascertained without doubt, was recorded by the weigher in the weighing-machine book. Certainty took the place of the irritating uncertainty of the past, sure confidence was substituted for angry suspicion, and the “cropper,” the most fruitful cause of

disputes between master and man, became as extinct as the dodo. Mr. Nixon's invention was, in short, of great service to the whole body of coal owners.

One little incident, however, remains to be noted. Mr. Nixon, who was a stern fighter when convinced of the justice of his cause—and, after all, if you fight at all, there is no use in doing it in kid gloves—had accompanied the lock-out of his men with a circular to the colliery proprietors in the Aberdare Valley. In this circular the circumstances of the dispute were explained, and the colliery owners were asked to abstain from employing any men from Deep Duffryn during the progress of the dispute. New Unionists of to-day, who claim the right of combination for themselves exclusively, never fail to complain of the use of this weapon by employers; but it is a weapon which is ready to their hands, of which they practically cannot be deprived, and which they do use, in my humble judgment, quite rightly. In any case Mr. Nixon did use it, and amongst the replies which he received was one from a gentleman whom, for reasons which will be apparent in a very few lines, it would not be kind to stigmatise by name. This gentleman answered that Mr. Nixon's insistence that the men should

agree to abide by a machine which was not in existence, so far as he knew, and certainly not in Wales, was unfair and tyrannical in the last degree. He, at any rate, was not inclined to support Mr. Nixon in his arbitrary proceedings, and he would make a point of employing every man from Deep Duffryn who applied to him for work. But this gentleman was also curious concerning the construction of the machine, which Mr. Nixon had not patented. Therefore, before forwarding his abusive letter to Mr. Nixon, he ordered his engineer to go over to Deep Duffryn to inspect Mr. Nixon's machine, which, with the exception of the trough under the screen to catch the small, was practically complete. The engineer was received courteously. He sketched the machine, he examined it minutely, and all the information he desired was afforded to him. The result was that a faithful copy, upon a smaller scale, of Mr. Nixon's machine was actually erected and in operation a few days before Mr. Nixon's machine was quite ready. The colliery at which this small machine was erected was the colliery whose owner had been so ready to criticise Mr. Nixon's action, and it was at that colliery that the machine obtained the name of "Billy Fairplay," by which it is now known all over England and Wales.

CHAPTER XI

MANY INVENTIONS

THE foregoing chapter contains an incidental illustration of Mr. Nixon's promptitude in the application of his mechanical knowledge to the needs of the moment. In the few pages to which this chapter will be confined an indication will be given of some of the principal illustrations of that mechanical ability which he was able to give in the course of his long life. Of these, some were on a small scale and some on a large scale. Sometimes he would see the one little improvement that was necessary to make perfect a design already in existence ; sometimes he would create in his mind the machine capable of meeting an open and notorious difficulty ; and sometimes, having weighed his opinion well, he would withstand the opposition of the most distinguished engineers of his day ; and, in one supremely important case of that kind, it has to be recorded to his credit that his ideas were adopted to the lasting benefit of the community, and the

results proved him to be entirely correct in his judgment.

In the invention of "Billy Fairplay" Mr. Nixon appears to have shown that rare gift of the inventor, which may be described as the capacity to perceive and to fulfil the obvious needs of the situation. There was, it may be taken, nothing mysterious in the mechanism of a machine which merely applied well-known principles in the simplest possible fashion. A rival coal owner, as we have seen, was able, after inspection by his engineer of the as yet incomplete machine, to make its double on a smaller scale; and we can well imagine that when the other coal owners saw "Billy Fairplay" at work, measuring out unswerving justice to men and masters, their first thought must have been one of irritated wonder that the idea had not occurred to them individually before. The vital difference between them and Mr. Nixon was, that he saw without external help that which they did not see until he had shown the way; and it must be said that this kind of inventive faculty is rare among men, and liable to produce great fortunes. It is, of course, the very opposite process of invention to that followed by Josiah Wedgwood. He was a maker of

experiments which might turn out well or ill; his successes, which were great, followed upon many failures. Mr. Nixon, practising in a field of different character, could make all the necessary calculations beforehand, could see what Plato would have called the "idea" of the machine in his mind before a single part of it was made; but, when the whole was put together, work it must, because it was the result of precise calculation of the operation of well-known principles and well-understood forces.

Let us give another illustration. The following extract from the minute-book of the Glamorganshire Canal Navigation, of the 5th June 1850, explains itself, and points to a crying mechanical need of the time :—

*Extract from Minute-Book of the Glamorganshire
Canal Navigation*

A committee of the Glamorganshire Canal Navigation hereby give notice that they are desirous of adopting a plan or device for loading coal into vessels lying afloat in the canal from barges alongside, and that they will give a premium of one hundred guineas for the best model or exposition of such plan or device, provided that it meets with the approbation of the committee. And notice is hereby also given that the committee will meet on the 31st day of July next, at

the hour of eleven in the forenoon, in the Cardiff Arms Inn, Cardiff, to receive and examine such models and expositions as may then and there be presented to their notice; and the principal freighters of coal upon the said Canal Navigation are hereby invited to attend the said meeting and inspect the said models and expositions. It will be necessary that all models, plans, and expositions be delivered at the Cardiff Arms Inn by nine o'clock on the morning of the 31st July; and application for further information will be attended to by John Forrest, clerk to the said Navigation, at the Navigation House, Cardiff.—*June 5th, 1850.*

The advertisement offering this prize was published generally as well as locally—that is to say, in the *Cardiff and Merthyr Guardian*, *Herapath's Railway Magazine*, the *Builder*, the *Mechanics' Magazine*, *Artisan*, *Newcastle Advertiser*, and *Mining Journal*. The committee were clearly determined, not only that their invitation should reach the South Wales mechanicians and the engineering public generally, but also that a special invitation should be addressed to the Newcastle-on-Tyne district, the classic home of inventors. Their foresight was justified. The committee met on the 31st of July, as arranged; and, inasmuch as Mr. Nixon had been largely instrumental in pressing upon the Canal Company the necessity of the kind of

appliance described in the advertisement, he was invited to be present. A very large number of models had been sent in for competition, and the exhibitors of them were present. In company with Mr. Crawshay, the chairman of the Canal Company, Mr. Nixon made a tour of inspection, and his attention was finally fixed upon a model exhibited by Mr. William Armstrong, now Lord Armstrong, and entitled to boast a reputation not merely European but world-wide in every sense of the word. "That model," said Mr. Nixon at once, "is the best of them all, but it is capable of improvement;" and he then proceeded to point out that, inasmuch as the movement of the arm of the machine was horizontal, it must come in contact with the rigging of the vessel, and so be prevented from reaching a point immediately over the hatchway into which the coal had to be shipped. Mr. Armstrong was thereupon summoned, and, after half-an-hour spent in thought, said that he saw his way to making the desired improvement; and Mr. Nixon, without entering into detail, pointed out the vast improvement which would certainly be effected by substituting a vertical for a horizontal movement. So, subject to the fulfilment of a promise

to introduce the vertical movement, the prize was allotted to Mr. Armstrong, and in a speech at the banquet which followed in due course, Mr. Armstrong acknowledged his indebtedness to Mr. Nixon. Thus one man from Tyneside had improved upon the invention of another, and John Nixon might have boasted, if he had been so disposed, that he had shown William Armstrong the way to perfect an invention, and that is a boast which few men of this century have been in a position to make.

It remains only to add in this connection that Mr. Armstrong fulfilled his promise to the letter, and that two of the improved cranes were erected on the Glamorgan Canal Company's Sea Lock Pond. The tipping arrangements of to-day are greatly improved, mainly by virtue of an apparatus designed by Sir William Lewis; but these cranes did their work for a long time, until Messrs. Nixon and Powell established special apparatus of their own for transferring coal from barge to vessel.

The next example of Mr. Nixon's mechanical ingenuity to be mentioned consisted principally, like the last-named, in the improvement of an existing idea. The winding-engines introduced by him for the equipment of the Navigation Colliery were very much larger and more power-

ful than any which had been previously in use in South Wales, and the problem to be solved was how to place in the hands of the engine-men such power as would enable them to control the heavy valves, indispensable in the case of these large engines, as easily as in the case of small engines. The germ of the idea seems to have occurred to Mr. Nixon when he inspected two large engines belonging to Mr. Maudslay, which had been made and used for the purpose of exhausting air in connection with Brunel's atmospheric railway in South Devon. That the engine should be controlled by hand for winding purposes was, it was manifest at first sight, out of the question. But reflection suggested to him that it might be possible to make one small engine, easily controllable by an engineman, control another and a larger engine. The idea took definite shape in his mind, and in a very short time we find Mr. Nixon writing to Mr. Nasmyth (whose name, like that of Brunel, conveys a whole biography to the mind), describing the form which his idea had taken, and asking whether anything of the kind was in use elsewhere. The scheme of his invention was that the starting and stopping of the great engines should be effected through a small steam

cylinder which the engineman could easily handle. The reply of the great engineer was eminently encouraging. That the arrangement was novel there was, he said, no doubt ; it was certainly not in use anywhere ; but there was practical merit in the idea, and it ought to be worked out.

So Mr. Nixon bought the two engines from Mr. Maudslay, put them in place at Navigation, and fitted them with his new apparatus, and found that they worked in so satisfactory a fashion that he was induced to apply the same principle to the engines at Merthyr Vale Collieries, where there were two 85-inch cylinders. But there had to be some little trouble and discussion with the professors of red tape before, even at Navigation, the apparatus was allowed to work. The men seemed to have made no complaint, and to have been entirely free from the apprehension of danger. By this time, indeed, they must have seen enough of Mr. Nixon to be assured that any suggestion of his was, because it was his, safe, sound, and trustworthy. But the Inspector of Mines—and after all is said one cannot question his motives—took a different view. He called and warned Mr. Nixon that, inasmuch as the arrangement was entirely new and untested, he must as a matter of duty pro-

test against its being used to lower men into the pit or to raise them from it. Indeed, he went so far as to insist that the men must make the ascent and descent by means of the Deep Duffryn engines, a proceeding which would have involved them in an extra walk of a mile underground every day. Mr. Nixon expostulated, with some vigour we may imagine. He explained the apparatus over and over again ; he argued, and his argument, we may be well assured, was doggedly persistent. Still the Inspector would not consent that the apparatus should have a human load. Stung by this obstinacy, Mr. Nixon challenged the Inspector to accompany him, and to be let down into the pit with him and by the new machine. The Inspector declined the invitation, without thanks, and renewed his protest. Perhaps it would hardly be just to the Inspector to censure him on this ground. Ever since the first experimentalist in aërial flight by man fell from a dizzy height into the sea, because his waxen wings were melted in the sun, inventors have been confident in the safety of their apparatus, and the confidence of some of them has been rudely shaken. Mr. Nixon was confident ; the Inspector did not share his confidence, and did not relish the prospect of descending

into the pit with all the accumulated force of gravitation in case Mr. Nixon's best-laid plans should gang agley. As for the consent, it does not seem ever to have been gained before the first experiment was made ; for Mr. Nixon simply gave formal notice to the Inspector that, as soon as the arrangements were complete, he would himself descend into the pit with the first batch of men. Descend he did, with the result that his own confidence, and the ready confidence of the men in him, was completely justified, and it may be mentioned that, from that day to this, there has never been an accident through the breaking down of the winding-engine.

Another improvement in colliery working, thanks for which are due to Mr. Nixon, is the spiral cylindrical winding-drum, with which nearly all the deep collieries of South Wales are now equipped. The object sought after, and secured in designing this apparatus, was to neutralise the great weight of the ropes when starting the loads from the bottom of the pit. It is perhaps worthy of mention that Mr. Nixon encountered many difficulties in trying to have this apparatus constructed in precise obedience to his designs, and that it was eventually made at his own works out of wrought iron, specially rolled for the purpose at

the Plymouth Works, thanks to the assistance of Mr. T. W. Lewis, the engineer of those works.

Important as the machines and inventions which have been mentioned must be admitted to be, they are certainly rivalled in value by Nixon's patent ventilator, which was fitted to Deep Duffryn at about the same time as the spiral drum, and at Navigation Colliery. The essential part of this invention of Mr. Nixon's is that it consists of two pistons, 30 feet by 20 feet, which are worked in horizontal cylinders by two 30-inch cylinder six feet stroke horizontal engines; and the best testimonial which can be given to the apparatus is a bare statement of its history. From that day to this, that is to say for more than thirty years, the original apparatus has been continuously at work. So slight has been the wear and tear that the expenditure upon repairs has been of the most trifling description, and no stoppage of work has ever been caused by derangement of the ventilator. Moreover, though many millions of tons of coal have been raised from these pits since the apparatus was erected, it is the proud record of the pits that, during the whole period of working, there has not been one of those terrific explosions which are too often the cause of widespread suffering among work-

men and their relations, and of ruinous loss to employers. Nixon's ventilator is also in use at the House of Commons.

The tale of particular inventions is now ended, and it must be admitted on all hands that for a list of valuable improvements made by one man it is remarkable. But there is yet one great important action of Mr. Nixon's life which, although it is illustrative of some of his other useful qualities, is none the less significant as an illustration of his mechanical and engineering ability. In the course which he pursued with regard to the construction of what was afterwards known as the Bute East Dock at Cardiff, we cannot fail to recognise the accuracy of his forecast of the development of the South Wales coal trade, and the justice of the attention which he paid to the evolution of steamers and sailing-vessels alike in the direction of larger tonnage. Also we shall have occasion to notice, not once or twice only, the display by him of that indomitable persistence which contributed so much to his success in life. So marked, indeed, was that persistence that, if it had not been amply justified by results, it might be described now, as no doubt it often was described at the time, as sheer obstinacy. But what strikes the man of to-day as the most remarkable

feature of the whole affair is the confidence with which Mr. Nixon, who was supposed to know everything about collieries and their stratification, and the machinery requisite for working them, but who was not supposed to have made any special study of dock and harbour construction, fought Sir John Rennie, than whom there was no man whose opinion carried more weight in matters connected with dock construction, and carried his point, and proved himself to be right. For that reason the story of the East Bute Dock finds a place in this chapter.

It was in the year 1853 that Mr. Nixon, still less than forty years of age, induced sundry leading persons in the South Wales coal trade to join with him in petitioning the trustees of the Marquis of Bute to provide suitable dock accommodation in addition to that which already existed. The principal ground for the petition was not only the growth of Cardiff as a coal-exporting port. That growth had in itself been amazing. From 1843 to 1853 it had risen from 274,000 tons odd to 903,000 tons and more. But the tendency which made increased dock accommodation indispensable was the tendency to increased size in ships. Mr. Nixon and his friends clearly saw that this tendency to an increase of tonnage was destined

to continue for many years ; and as a matter of fact it has continued to the present day, and shows no signs of having reached its limits ; from which it follows that many docks, which were amply sufficient to accommodate the ships of old times, are liable to be left behind in the race now. The petition was eventually successful ; that is to say, the Bute Trustees, whose office forbade them to consider the matter solely from the point of view of the coal trade, decided, after mature consideration, that it would be consistent with their duty and to the ultimate benefit of the estate to construct a new dock. It would be pleasant to pause for a few moments here, to point out how generous a view has been taken of questions of this kind by successive Marquises of Bute and successive bodies of trustees, and how, if the estate has profited in the long run and indirectly in consequence of the colossal expenditure upon the docks, others have been able to reap where the Bute Estate has sown. That the construction of the Bute Docks has increased the value of the Hinterland of Cardiff is beyond question ; but that Hinterland is not all, or nearly all of it, the property of Lord Bute, and much of it is the property of men who have not risked money on the huge scale of the Bute Estate, or

indeed risked any money at all. It were well, sometimes, if some persons in Cardiff and the district remembered the indebtedness of that community to Lord Bute.

Be that as it may, the trustees resolved to construct the new dock, and appointed the well-known Sir John Rennie as engineer, and Mr. Plews as resident engineer. It fell one day that Mr. Nixon went down to look at the sinking operations, and, ever given to indulge in intelligent curiosity, asked the foreman on the spot how much farther it would be necessary for them to sink for the sill of the dock. He learned that the work of excavation was over, and that it was not intended to lay the sill of the new dock any deeper than the sill of the existing West Dock. Astonished, almost horrified, he hurried off to the contractor to hear that the foreman's statement had been only too correct. If that was the plan, he saw clearly that half his exertions in securing the new dock would have been entirely thrown away. Already the small depth of water over the sill of the West Dock was driving numbers of vessels away from the port. Better accommodation and a greater depth of water over the sill were the things of paramount necessity, and Mr. Nixon determined on the spot that he would strain

every nerve to prevent this great error from being committed. He did not let the grass grow under his feet. Straightway he wrote to Mr. Clark, the Bute agent, informing him of the facts, and asking him to come to Cardiff to consult upon the matter. Hot foot upon the receipt of Mr. Nixon's letter Mr. Clark came to Cardiff, and, at the suggestion of Mr. Nixon, wrote to the trustees to point out the fatal effects upon the port which must follow from laying the sill of the new dock at this totally inadequate depth. The trustees, in their turn, wrote to Sir John Rennie, and he came to Cardiff to go over the works with Mr. Plews.

No great gift of imagination is needed to picture the state of mind of the great engineer. What he was asked to do was, in effect, to go over work performed in exact obedience to his own plans, the said plans relating to a department of engineering in which reputation assigned to him special skill and knowledge. He had to decide, in effect, whether his matured design was of any value, having regard to the special needs of the shipping. That cannot have been a pleasant position for an engineer of high standing in his profession, and Sir John Rennie's feelings were not likely to become less bitter when he

remembered that this request to pass judgment upon his own work was made to him at the instigation of a man comparatively young, and, in matters connected with the construction of docks, a mere amateur. Most painful of all must have been the ever-present consciousness that in the main contention, namely, that a dock with a sill of even depth with the West Dock would be of little or no advantage, Mr. Nixon was unquestionably right.

The position adopted by Sir John Rennie was no doubt taken up in good faith, and the opinion which he expressed was unquestionably honest. He reported that it would be impracticable to lay the new dock's sill at a greater depth than the sill of the West Dock ; that he would not undertake the responsibility of making the attempt to take the new sill to a greater depth ; and that if any such attempt was made the walls of the West Dock would be imperilled. But it is necessary to point out that Sir John Rennie was between the horns of a dilemma ; he was compelled either to admit that his plans were inadequate to the needs of the shipping, which were well known, or to pronounce an opinion that Mr. Nixon's desire for greater depth was impossible of attainment. He chose the second alternative. But he had reckoned

without the persistency of John Nixon, and he little knew of that North Countryman's quiet confidence in his own judgment. No sooner did Mr. Nixon hear of Sir John Rennie's report than he was with Mr. Clark again, urgent in season and out of season upon the paramount necessity of greater depth. Mr. Clark, very naturally and properly, was at first disinclined to run counter to the advice of so eminent an authority as Sir John Rennie; but Mr. Nixon, to use a familiar expression, kept on hammering at him, declaring that he could see no substantial reason for the apprehensions of Sir John Rennie. Finally, he persuaded Mr. Clark, and through him the trustees, that at any rate it would be worth while to postpone further operations until they had taken the opinion of another of the pupils of Bruce's Academy in Newcastle, of no less a person, in fact, than Robert Stevenson himself.

That prince of engineers, at home and abroad, in connection with railways and bridges alike, creator of the High-Level Bridge at Newcastle, the Victoria Bridge at Berwick, the Conway Railway Bridge, the bridge across the Nile, the Britannia Tubular Bridge which spans the Menai Straits, and the Victoria Bridge across the St. Lawrence, was at that time in Canada, engaged in the super-

intendence of the last-named work. Six weeks passed before he could come to Cardiff; but when he came, and after going thoroughly into the subject, he reported that the work could be done according to Mr. Nixon's requirements, that three feet more depth could be given without endangering the safety of the adjoining dock, and that it certainly ought to be done. It was a bitter moment for Sir John Rennie and for Mr. Plews, who protested again and again against the decision of the trustees to follow Stevenson's advice; and it was a proud moment for Mr. Nixon, who had declared from the very beginning that the design, which he considered imperative, was also perfectly practicable. The result proved him to have been right, for all was done as Stephenson had directed, and none of the terrible things prophesied by Sir John Rennie happened at all. The West Dock walls indeed stand to this day.

Yet one more triumph, yet another successful conflict with the engineers, remained for Mr. Nixon in connection with the construction of the East Dock. Having carried his point about the sill, he discovered that the engineers were constructing the dock itself upon a scale which was, in his judgment, not likely to be adequate to the needs of the future. They were making it 200 feet

wide only, and that did not satisfy Mr. Nixon. After long correspondence he succeeded in persuading the Bute authorities to construct the first 1000 feet of the dock at a width of 300 feet, and that in spite of the strenuous and repeated objections of the engineers, who must by this time have grown weary of the very mention of Mr. Nixon's name. Was his judgment right or wrong? Was he over-estimating the demand for accommodation which would be made by the shipping of the future? Let the future, now that it has become the past, record its own opinion in acts done. That East Dock was 1000 feet long at the outset. For that 1000 feet Mr. Nixon insisted on a width of 300 feet. The dock has been extended since then to meet the needs of the trade. It is now 4300 feet long, and, beyond the first 1000 feet, is not 300 but 500 feet wide. It is difficult to speak in terms of too high praise of the services which Mr. Nixon did to Cardiff when he stood forth boldly, and by his insistence defeated Sir John Rennie.

CHAPTER XII

RAILWAYS, "RINGS," SLIDING SCALE

IN the chapters which have gone before we have recounted the great impetus which the subject of this volume gave to the coal trade of South Wales in his early days, and have given some account of the improvements which he was instrumental in bringing about in his working of collieries. Mention has been made of machines and apparatus which he invented in the whole or in part to facilitate the winning or the shipping of coal, of his relations with workmen, and of his methods of dealing with them. But there is no desire to place his claims to honour on too high a basis, or to pretend that his conduct, in this matter or in that, was dictated by purely altruistic motives. On the contrary, enlightened self-interest was a guiding principle of his life. No man of his time was more closely bound up in the steam coal trade. He pursued the fine coal, of which he thoroughly appreciated the capabilities, from the surface of the earth into the far interior. His object was to extract it in the most work-

manlike and economical fashion. When it was raised he traced it from the pit's mouth to the port of shipment or to the main line of railway, and he would no doubt be the first man to protest that the primary object of his inventions and of the suggestions he made to others who had control over the means of transport or of shipment was the advance of his own increasing business. But it is none the less true that his enlightened self-interest operated to the benefit of others than himself, and tended towards the benefit of a growing community. He invented "Billy Fairplay," to meet a labour crisis in his own colliery ; but "Billy Fairplay" plays fairly in a hundred and more collieries now. He suggested the improvement which had been described in Mr. Armstrong's crane, and the advantage came to him ; but it came to others also. He saw that Sir John Rennie's scheme for the East Dock would not suit his business, and he persisted until it was amended. Others no less than he reaped the benefit. Sometimes I am inclined to think that enlightened self-interest does more good in this world than philanthropy, which, being purely free from all taint of selfishness, gives without due thought, and encourages men to pursue those occupations which, being unprofitable, must in

the long run collapse and leave misery behind them.

Very conspicuous was the public benefit resulting from Mr. Nixon's successful efforts to persuade and even to coerce the railway companies feeding and feeding upon South Wales and Monmouthshire to fall in with his wishes, and to enable him to develop his trade to its fullest capacity. It is an old-world story now, in some of its details almost inconceivable, and to the man interested in business full of quaint and almost antediluvian interest. Firstly, and as a matter of course, he had to persuade the railway authorities of South Wales, as a preliminary to persuading the authorities controlling French railways, that steam coal could be substituted for coke as a fuel for locomotive engines, and with good results. This was comparatively early in his career, so early indeed that at that time no coal came down from the hills to Cardiff by the Taff Vale Railway, since celebrated as one of the most successful of mineral railways. With great difficulty, by using his influence with one of the directors of the company, and in the face of all manner of objections raised by the officials, he obtained permission to make a trial of his coal on a Taff engine. The engine came to the Canal Dock at

Cardiff to take in the coal for the experiment, and present at the trial were Mr. Fisher, the manager of the line, and the person who then held the contract to supply coke for the line. This person protested that the Aberdare coal would not serve, that it burned the bars of the furnace and injured the tubes of the boilers. Nor was he appeased by Mr. Nixon's assertion that the main object of the trial was to secure the French railway market for coal in place of coke; for he cannot have failed to see that if Welsh coal was better than coke for a locomotive in France, it would also be more suitable than coke to a locomotive running in Wales. Nevertheless the trial was made, and ended satisfactorily, although a desire on the part of Mr. Fisher to have the fire poked when the steam generated was already amply sufficient, reminded Mr. Nixon of his old experience in France. Mr. Fisher, however, did not recommend the adoption of the coal, stating as a reason that, although no harm had been done at the trial, he was convinced that prolonged use of it would be injurious to bars and tubes, particularly to the tubes. So the Taff Company, although by no means flourishing in those early days, continued to burn coke, at double the expense of Aberdare coal, until the

time when a Mr. Tomlinson became locomotive superintendent. Then a sudden scarcity in the supply of coke caused Mr. Nixon to suggest a new trial, with the addition of some broken bricks in the centre of the furnace, so as to obviate all suspicion of danger to the bars. This trial again was successful. The Taff Vale Company adopted steam coal, with an enormous saving of expense, and their example was soon followed by the remaining railway companies of South Wales.

It was soon to spread elsewhere ; indeed, it must have spread ; but it was accident, combined with a readiness to seize opportunity, that brought to Mr. Nixon as customers the first great English railway company. Through mere chance he travelled down from London to South Wales in the company of some directors and the manager of the West Midland, then recently constructed. Their conversation soon revealed that they were going down to South Wales on a journey of discovery, with the object of seeing whether Welsh coke could be obtained in sufficient quantities for it to be worth their while to attempt to develop the traffic in it. In that conversation Mr. Nixon, as a man who knew all that was worth knowing about the coal

trade in South Wales, joined. He informed the strangers that little coke was produced in Wales, and that, as a coke-making coal, Welsh coal was inferior to that of the North of England, since more Welsh coal went to the manufacture of less coke. But, he observed, Aberdare coal could be used with advantage in locomotive engines, and the strangers were astonished. It was extraordinary, they said, if this were indeed so, that Welsh coal had not been turned to this use before. In a word, they doubted him, and challenged him to prove his assertion. But he, nothing daunted, offered to supply them with a truck of coal, and a man to explain its use, with the final result that Welsh coal came into regular use, not only on the West Midland, but on the Midland system also.

As the inland trade developed, the necessity for rousing the railway companies to action as carriers of coal naturally increased, and Mr. Nixon took a leading part in the process of arousing them. Let us follow his proceedings in relation to the Great Western Railway. "He made it his business"—when he did so, he had a way of carrying his point—to call upon Mr. Saunders, then the general manager of the company. He pointed out to Mr. Saunders

that Welsh coal had been proved to demonstration to be the best coal for steam purposes that was produced in Great Britain. The demand for it was increasing daily, and a great quantity was sent to London by sea. Coal from the North of England was transported to London not only by sea, but also by rail, at a rate of one halfpenny per ton per mile or thereabouts. There was, he argued, no reason why the Great Western should not treat the coal owners and merchants of South Wales as generously as the coal owners and merchants of the North were treated by the railways which served them. Assuming proper facilities, the traffic in coal upon the Great Western line would be very great. Mr. Saunders, however, was not dazzled by the golden prospect, and his answer was, from our modern point of view, astonishing. "Our line," he said in effect, "is a passenger line of the first quality. We run at great speed, and we keep our line in the best of order, so that we may be able to maintain these fast passenger trains. The Great Western Railway Company is in no need of coal traffic; it would rather be without it; we will certainly not reduce our rates to encourage the traffic which you foretell."

To-day that answer seems to have been childish and almost aboriginal ; even then it was behind the age, for Mr. Nixon was prompt to remind the general manager that the northern lines, passenger lines no less than the Great Western, carried coal at the halfpenny rate, and to say that what could be done in the North could be done in the West also. But Mr. Saunders was immovable. The smooth track of the Great Western should not be degraded into a mineral line, and he would certainly not advise his directors to reduce the rates. Whereupon Mr. Nixon threatened that his company would build a large steamer for their London traffic, and he was as good as his word, for Messrs. Cory, Nixon, and Taylor did build a vessel, the *William Cory*, of 1500 tons burthen, which plied between Cardiff and London in the coal trade for many years.

But the Great Western Railway had by no means seen or heard the last of Mr. Nixon. In 1863 we find him as a leader among the colliery proprietors complaining that upon receiving a train of laden trucks, all destined for one port of shipment—say Birkenhead—the railway company would split up the train and divide it between many luggage trains. From this senseless proceeding as a matter of course followed endless

delay and inconvenience, and it was owing to Mr. Nixon's tireless persistency that it was done away with. With the improved system of despatching the trains directly from the colliery to the port of shipment there was great gain in the way of expedition, and a more ready market was consequently obtained.

Yet again the Great Western encountered Mr. Nixon as an opponent and a teacher. The Vale of Neath Railway, built on Brunel's broad-gauge system, found itself in difficulties, owing to the increasing competition of the Taff, and the Great Western Railway Company desired to acquire the line. To secure this end Parliamentary sanction was necessary; but Mr. Nixon opposed the Great Western Bill strenuously, and it was thrown out. In the following session it was brought forward again, and there was no opposition from Mr. Nixon. But his silence had been bought at a price which must have wrung the very hearts of the stiff-necked authorities of the line in those days. By negotiations with Mr. Potter, the then chairman, and by bringing about meetings between leading men in the South Wales coal trade and the Great Western directors, Mr. Nixon had succeeded in carrying completely the point on which he originally insisted in conver-

sation with Mr. Saunders. The great railway company, which scornfully declined to lower its rates for coal traffic, which asserted that it would prefer not to sully its track and derange its rails by carrying coals, actually undertook to reduce its rates between London and Cardiff to the level which prevailed on the railways of the North and the Midlands. It was a great victory, and no less beneficial to the vanquished than to the victors, for, in after years, Mr. Potter personally informed Mr. Nixon that the coal traffic between South Wales and Birkenhead and London had saved the Great Western from something near akin to bankruptcy.

It needs hardly to be added that this great railway company is now, and has for years been, in more enlightened hands—has indeed lately shown itself a pioneer in reforms aiming for the public benefit. Nothing would be easier in the way of mistakes than to pass too harsh a judgment upon the railway administration of the days when railways were young; and when we go over in our minds the long list of the wealthy railway corporations of to-day, we must never forget that in the past many of them passed through periods of critical anxiety. To the end, Mr. Nixon well remembered the time when the chairman of the

Taff Vale Company, which afterwards attained great prosperity, seriously proposed that the whole plant and property of the company should be offered to its creditors in liquidation of their claims, and when the interests of the shareholders were saved only by the public spirit of the directors, who pledged their personal credit to secure a large advance from the bankers. At about the same time the Bute Docks were in such difficulties that the then Lord Bute offered to sell them for a guaranteed interest of 3 per cent. upon the outlay. In a word, men's ideas had not yet widened sufficiently to realise the certainty of the future prosperity of South Wales, and the Canal was the only flourishing property among the carrying companies. Many forces, quite independent of Mr. Nixon, were at work to make the great future which we now see, and the greater future which is to come. Among these the shrewd foresight of Mr. Nixon, and his well-grounded confidence in the rich field of trade which South Wales offered, his insistence on the development of the best methods, and his ceaseless energy in pushing the coal trade and opening new markets, may be reckoned as having been distinctly influential for good.

When Mr. Nixon was well stricken in years, his

great intellect was still remarkably acute, and wise men of the younger generation were prone to seek his advice upon matters relating to the interests of the coal trade as a whole. Particularly interesting was it to consider some of the coal owners' schemes of to-day, schemes for making a new heaven and a new earth—for coal owners and colliers only—in the light of his experience. We hear much in these days of the crying necessity for regulation and restriction of output, the result of which, we are told, would be that the collier would receive good wages and something more for moderate work and something less, while the coal owners would receive fair prices for their products. Many prophecies are made of halcyon days to come, when the demon of competition shall be exorcised, and employer and workman shall lie down together with never a quarrel from year's end to year's end. To the outside observer it would seem that such schemes are not feasible, inasmuch as they run counter to sundry strong instincts of human nature, and also to certain well-known laws of trade. These are laws not made by man, but formulated as the result of observation, which shows that when certain errors or miscalculations are made, certain commercial calamities follow. In other words,

the rules of political economy are natural and irresistible, not human and alterable. There is however, a modern school of men who profess to have banished political economy to Saturn, though, if the rumours of the high intellectual attainments of the supposed inhabitants of Mars have substance in them, the despised science is far more likely to have taken refuge in the last-named planet. Again, it is painfully clear that the new heaven and earth for the producers of coal, capitalists and workmen, would involve something remarkably dissimilar to heaven for the unhappy consumer. In these circumstances it is consoling to learn that long experience taught Mr. Nixon, almost worthy to be called the father of the export of coal, the chimerical nature of schemes of this kind ; and, since the public has recently been subject to a serious menace of the kind, Mr. Nixon's experience is well worthy to be recorded for two reasons. For that experience has a double value : it teaches us what can be done and what cannot be done ; it teaches us that what can be done is to the benefit of the community, while that which is impracticable would, if it were practicable, be contrary to public policy.

Fluctuations in prices, rapid and great, are the

primary evil, and the worst effect of that evil influence is that it tends to produce numerous disputes between masters and workmen. With rising prices workmen, following the proper ambition of every man to do the best he can for himself, demand advances of wages ; with falling prices employers insist, sometimes prematurely, sometimes opportunely, sometimes too late, upon reductions of wages. In the industrial community of normal organisation, neither the advances nor the reductions come without a struggle, which involves, in most cases, cessation of work, and in all cases some bitterness of feeling. These fluctuations were worse in the South Wales of the fifties and sixties than they are now ; for then the producers had to rely for transport, or did rely, principally upon sailing-vessels, which were, in the nature of things, uncertain in their coming and going. For the difficulties and the quarrels which ensued, Mr. Nixon, with other coal owners, sought a remedy ; and the first remedy suggested was that which is now boasted as novel, but is really as old as trade itself, the regulation or the restriction of the vend or output of each colliery. The scheme had a superficial fascination, but it depended on several fallacies, which must have caused it to break down in

the end, and it was founded also upon a disregard of human instincts, which did break it down in the beginning.

Undoubtedly there are circumstances under which restriction of output or vend may be used to keep up prices at an artificial level. To deny that were absurd in the face of the fact, which is notorious, that the authorities of the diamond mines which are incomparably the greatest in the world, do in fact keep back a very large proportion of the diamonds produced from their mines. But it must be remembered that they have virtually no rivals, and it must be remembered that the demand for diamonds, depending for the most part on the desire of man to gratify woman (which is a very ancient and imperious and ineradicable desire), is permanent and abiding. Sometimes the world is richer than at other times, and can buy more diamonds; but it would not in the least affect the material welfare of civilisation if no diamonds could be bought at all. The case is far otherwise when many competing traders attempt to rig the market and to form a ring in relation to the price of a product which is the vital force and the source of power in almost every industry. The demand is by no means permanent and abiding, and it

must and does fall at the moment when prices become artificial, as they may for a time. Dear coal, when coal has no right to be dear, means stoppage of other industries and reduced demand for coal : this is an elementary fact which some self-seeking visionaries would be well advised to take into consideration. It cannot, however, be said that Mr. Nixon and his friends did take it into consideration until they had been taught by experience. Still it is something to the credit of Mr. Nixon that he submitted to the lesson of experience, and that he became in due course a strong opponent of the ring system.

He and other colliery proprietors of South Wales fought, and fought hard, to establish control of output or vend. They had many meetings. Finally, an independent engineer was appointed to inquire into the capacity of each colliery, and into the circumstances affecting the power of output of each colliery, with the object of assigning to each colliery a maximum output, and so adjusting the supply to the demand. There is no doubt that the coal owners were earnestly desirous of arriving at agreement in the matter ; but the result was precisely what might have been expected. "When the engineer's Report was presented to the em-

ployers, embodying his views of what should be worked by each colliery or set of collieries, such dissension was created among them that the scheme was abandoned, and each one allowed to 'gang his own gait' and sell his coal as best he might." Of course there was dissension, and, to be plain, it is well that it came in the beginning, for it must surely have come very soon. Moreover, if the rule that a contract in restraint of trade shall not be enforceable means anything at all, it is difficult to see how the first man breaking away from the agreement, if it had ever been entered upon, could have been proceeded against with success. He might have snapped his fingers at his colleagues, and have made his fortune with impunity.

The next scheme, which took the form of a society or association of which Mr. Nixon was president, had for its object the periodical fixing by agreement among the coal owners of a minimum price for coal. This expedient has been tried in many trades with the same result in every case. That is to say, the mean man breaks away, makes his own bargain, and leaves his comrades out in the cold. It happened, as a matter of course, and in rather an amusing form, in the case of Mr. Nixon's society. Com-

plaints reached him that one of the members had quoted a price below that which had been fixed by the associated coal owners, and he was asked to call a meeting to consider this gentleman's conduct. Prudent in this matter as in all others, but resolved to be firm when he had the opportunity of exposing the traitor, he declined to call the meeting until he was placed in the possession of incontrovertible evidence. It was forthcoming eventually in the form of a letter written by the accused man. Long after, when the affair was many years old, it was interesting to hear Mr. Nixon recount the story of the exposure of the underhanded coal owner, before his brethren, in full meeting assembled. Mr. Nixon himself undertook the duty of cross-examination, and very effectively he performed it, until at last he forced a full admission from the shame-faced culprit. This person's excuse was delicious. Having been engaged in another walk of life before he "commenced coal owner," he cried out at last, "It is always done in the flour trade." It is done in every trade whenever agreement on prices is attempted, from the humble costermonger's trade to that of the princes of commerce, and the ex-flour-merchant's condemnation was the end of that futile experiment.

These experiences were not lost upon Mr. Nixon, and the best fruit of them is to be found in the readiness with which he lent himself to the support of the sliding-scale system in South Wales and Monmouthshire. Of that system it may be written without any hesitation at all, that, taken with its surroundings, it has for more than twenty years emphatically proved itself to be the most effectual device for avoiding friction between workmen and their employers that has ever existed in this country, and that it has worked steadily, and without serious interruption, to the mutual benefit of employers and workmen. The real inventor of that system, the man who, after six months spent in thoughtful calculation, produced the scheme which for so many years gave to South Wales and Monmouthshire practical immunity from labour troubles, was Sir William Thomas Lewis, whose services to the South Wales have been twice and justly recognised by the Sovereign. But he would, however, be the first to protest that, if the idea was his (as it certainly was), his success in launching and establishing it was due in large measure to the support which he received from Mr. Nixon; for, by the time the sliding-scale was introduced, Mr. Nixon was the recognised leader of the coal

owners, and chairman of the Coal Owners' Association.

This sliding-scale system, as established in South Wales, is so important a matter, and the various circumstances which make for its strength are so little understood by the public at large, that a few words may wisely be devoted to an explanation of its principles. In devising his scheme, Sir William Lewis decided to adopt the wages or rates paid in the various collieries in a particular year as a standard. Observe those words, "in the various collieries." Different rates, determined by various circumstances, such as the ease or difficulty with which coal is won, prevailed in 1879, and still prevail in different collieries. But in each colliery, under the old system, disputes were liable to occur whenever prices rose and men demanded increased rates, or prices fell and employers declared a reduction of rates to be necessary. Now attempts, as we have seen, had been made to control the fluctuations of prices. We have seen also that these attempts always failed, and sometimes failed ludicrously. The first great merit of Sir William Lewis's design was that, perceiving the futility of all attempts to regulate prices or to eliminate fluctuations, he saw that it might be possible to formulate a

scheme which would meet fluctuations of prices automatically, without interrupting the relations between employer and workman. Allowing a certain standard, he enunciated in a definite form the principle that wages ought to rise and fall in proportion to prices. After long deliberation upon the proportion of wages to prices throughout the South Wales coal field, he determined upon the percentage by which wages ought justly to rise and fall, whenever, over a given period, the price of Welsh coal, free-on-board at Cardiff, Swansea, or Newport, rose or fell by the amount of one shilling or more.

The period first fixed upon was six months. It has since been shortened, but the principle (even after the recent and disastrous conflict) remains the same. A joint-committee of men and masters, each equally represented, and each section elective and representative, was appointed to administer the affairs of the sliding-scale arrangement. The committee-men on either side are, of course, elected periodically, and the agreement which binds both parties is subject to six months' notice. Such notice has frequently been given, and there have often been disputes upon the question of percentage and upon the periods between times of audit. But a provision for six

months' notice leaves ample time for negotiation and repentance, and, after many notices given, the sliding-scale survives up to the moment of writing. That it survives to the benefit of the men there can be no question, for the records plainly show that, apart from the great gain of having constant employment when other miners were wasting their time on strike, the miners of South Wales and Monmouthshire have for many years and consistently enjoyed more regular work and have earned better wages than the miners in any other part of the country. That it survives to the benefit of Trade Unionists it would be wrong to assert. It is indeed bitterly opposed by the Trade Unionists, who, for a very long time, obtained scarcely any footing in South Wales. Nor was the reason far to seek. The men found that, without the trouble of contributing to Trade Unions, they obtained all, and more than all, that Trade Unions could promise them; that is to say, good wages, constant employment, better "benefits" than a Trade Union could promise them, and an absolute certainty of receiving those benefits. There are some persons, no doubt, in whose judgment Trade Unionism is itself an end, to whom an industrial community indifferent to Trade Unionism seems to be living

in outer darkness. The present writer, indeed, yields to none in recognition of the valuable work that Trade Unions have done in enabling workmen to negotiate with employers on equal terms. But it does not follow that he is prepared to lift up his voice and weep because Trade Unionism is weak in a district where, as a plain matter of fact, it is not wanted, and does nothing but mischief.

Standing alone, the sliding-scale system might not perhaps have been permanent. Much must in any event have depended upon the statesmanship and self-restraint of the leading men on either side of the joint-committee. In this respect acquaintance with both sides and with the history of the committee justifies the writer in saying that both masters and men have been excellently well served for these many years. But the wisest statesmanship on the part of members of the joint-committee would hardly have served to keep the peace for so many years if other influences had not been at work. First amongst these may be placed the Miners' Permanent Provident Fund, founded by Sir William Thomas Lewis, to which Mr. Nixon was, in the course of his great career as a coal owner, necessarily a very large contributor. Of that

fund, which provides various benefits, the men provide 75 per cent. of the funds roughly, and the masters 25 per cent. This fund, which pays in every case and never provokes litigation, is almost entirely in the control of the representatives of the men, and its existence does away with the necessity for a Trade Union regarded as wholly or partially a benefit society.

But a very potent factor remains in the Monmouthshire and South Wales Coal Owners' Association, of which Mr. Nixon was for many years the chairman. Without undue revelation it may be said that this association is, and is known to be, very wealthy and powerful. It works, so to speak, on parallel lines with the sliding-scale which regulates the payments in the various collieries. It renders the long continuance of a strike or lock-out in any associated colliery practically impossible. If the men cease from work, the employer reports the matter to the committee of the association. They pronounce an opinion favourable or unfavourable to him. If it be favourable, he is indemnified against loss of profits during the strike, and becomes irresistible from the men's point of view ; if it be unfavourable, he is not indem-

nified, and his defeat becomes a matter of certainty.

I regard the strong support which was constantly given to the sliding-scale system by Mr. Nixon as one of the wisest courses of policy pursued by that sagacious man in the course of his long life ; and with the account that has been given of that system, sufficiently to enable its principles to be visible, but without overloading of statistical detail, this volume may well draw to a close. Other matters might have been mentioned. Something, for example, might have been written of his success in inducing the British Admiralty to adopt Welsh coal, a success achieved on the strength of elaborate experiments made at Cardiff, and in spite of great pressure brought to bear upon the Government in the interests of North Country coal owners. Mention might also have been made of his activity in promoting new railways and independent dock accommodation. Thus he was one of the first directors of the Rhymney Railway, which brings the Rhymney Valley and the port of Cardiff into direct communication, and the initiator of the Penarth Dock and Harbour, of which he was an original director, and is still the largest shareholder. Again, as representative of South Wales on

the Mining Association of Great Britain, he was an assiduous attendant of meetings, and his strong influence has been felt in much of the legislation for the improvement of the working of collieries. All these things, however, are but additional examples of the success which he achieved, and illustrations of a character which, be it hoped, stands out in clear lines on these pages. Pleasant also would it have been, from the human point of view, to recount, side by side with the story of John Nixon's rise to great place, but not by a winding-stair, the incidents of his happy married life ; but with all regard to the kindly and accomplished lady who has been the cause of that happiness, to discourse on that matter would hardly have been to the purpose. What are the talents, what are the methods of business, what are the principles of life which carry a man of comparatively humble origin to a high place in the world of industry and commerce? The answers to these questions are illustrated in Mr. Nixon's life ; and if I have not named every great achievement of his life, every railway that he built, every pit that he sunk, every struggle that he fought, I shall still have succeeded beyond my hope if I have

made it plain that the "firmness and fairness" which Mr. Nixon declared to be the great rule of success in life, were no less useful than his brilliant ability and his shrewd foresight in raising him to great fortune.

THE END

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